POSTERS (P)

P-1

Intracardiac extension of hepatocellular carcinoma, a case report

Abdullah Ameen, Furqan Ahmed, Wasim Memon
Department of Radiology, Aga Khan University Hospital (AKUH), Karachi, Pakistan.
E-mail: abdullahameen324@gmail.com

With alcohol consumption and increasing incidence of hepatitis B and C, incidence of hepatocellular carcinoma is ever increasing. Based on reliable; hospital registry hepatocellular carcinoma is the most common malignancy and make 10.7 % of all cancers. Common metastasis of hepatocellular carcinoma to lung bones, lymphatic's and brain. Here we present a rare case of 60 years old female, known case of hepatitis C and chronic liver disease for 10 years presented with complain of right upper quadrant localized pain. Patient also had the history of pain in epigastric region relieved by taking antacids. No history of epigastric pain radiation except for occasionally radiating to the back. She also gives history of mild shortness of breath, however remains functional class I. On physical examination there was slight bulge in the right hypochondrium in the subcostal region. Triphasic CT scan abdomen and pelvis was performed which revealed a large locally advanced hepatocellular carcinoma with local extension in to heart.

P-2

Omental torsion secondary to inguinal hernia : A rare cause of acute abdomen with characteristic imaging findings

Ali Mansoor, Rabia Shaukat
Department of Radiology, Mayo Hospital, Lahore, Pakistan.
E-mail: alimansoor@hotmail.com

Torsion of greater omentum is a rare cause of acute abdomen. It can be primary or secondary. In latter cases, inguinal hernia has been cited as one of the most common predisposing conditions. In both cases, its pre operative diagnosis is rare because it mimics other causes of acute abdomen clinically. However, it has distinct imaging features on CT scan. It can be managed conservatively as well as operated. However, former is possible only when imaging is employed. Then the diagnosis can be clinched with certainty pre operatively avoiding excessive patient morbidity and mortality. Therefore, radiology plays a very important role in diagnosis of this entity. The aim of this poster is to describe the characteristic CT findings in a case of omental torsion secondary to inguinal hernia and make the reader familiar with the typical appearances of this rare entity.

P-3

Cecal volvulus: A rare cause of intestinal obstruction

Farkhanda Jabeen, Ayesha Isani Majeed, Syeda Zakia Shah, Samina Akhter
Department of Radiology, Pakistan Insitute of Medical Sciences (PIMS), Islamabad, Pakistan.
E-mail: doc.fari78@gmail.com

Cecal volvulus is a rare cause of intestinal obstruction, with multifactorial etiologies. This is a case report describing a 70-year-old male with a cecal volvulus which was diagnosed on CT scan abdomen and pelvis which showed dilated cecum present at the abnormal position in left hypochondrium with twisting of its mesentery along with distal ileal loops and resultant proximal small bowel obstruction. The diagnosis was confirmed during the laparotomy procedure where long mesentery was the cause and the patient was treated with right hemicolectomy with a side-to-side ileo-transverse anastomosis. The aim of this report is to emphasize the importance of a diagnosis and appropriate treatment in this rare pathology in abdominal procedures. In this particular case, the patient benefited from an early surgical intervention without further complications, as well as an adequate postoperative evolution; it is important to acknowledge and consider this pathology during differential diagnosis, and not delay the treatment in patients with cecal volvulus.

P-4

Weird world of unexpected hosts: Pictorial review and Cases series of intra-abdominal round worms on ultrasound

Khalid Shakeel Babar, Muzaffar Shah, Mohsin Khan, Abdul Ghaffar, Saba Shabbir, Zainab Malik
Department of Radiology, DHQ Teahing Hospital, Dera Ismail Khan, Pakistan.
E-mail: khalidshakeelbabar@gmail.com

Round worms are common in Pakistani population; especially in rural areas. Radiologists working in an urban area seldom encounter parasitic diseases in daily practice, although the incidence of these diseases is increasing due to migration and tourism from endemic areas. Here we represent a case series of intra-abdominal round worms in different locations diagnosed on ultrasound. These cases have been selected from DHQ Teaching Hospital DIKhan and DHQ Hospital Bajaur, KPK Pakistan. Our cases include; worms in bowel, pancreatic duct, CBD and appendix. Worms in these locations can surprise a general radiologist and may lead to an error in reporting. This pictorial review will help in the diagnosis of worms on ultrasound for a general radiologist.

P-5

Morphologic abnormalities of diffuse liver diseases at triphasic CT exam

Mahnoor Hafeez
Dow Institute of Radiology, Dow University of Health Sciences (DUHS), Karachi, Pakistan.
E-mail: mahnoor.hafeez@yahoo.com

Diffuse liver disease (DLD) is an abnormality of liver parenchyma, either due to pathology of the hepatic tissue; porto-biliary or post hepatic cause. The study aims to analyze the morphological abnormalities on Triphasic CT scan in patients with DLD.

METHODS: All patients who underwent the Tri phasic CT study comprised the study population. CT scans were performed on HITACHI 16-slice, SIEMENS 16-slice, and GE 64-slice scanners. Demographics, size and density of the liver, Caudate- right lobe ratio (CRL) ratio was noted. Biliary- hepatic vascular patency, hepatic venous outflow tract obstruction (HVOT), Parenchymal abnormality, Liver contour abnormalities, Right Posterior Hepatic Notch (PHNS) Sign, Peri-Portal Space (PPS) widening and liver segmental/ lobar atrophy, if present was recorded.

RESULTS: A total of 270 participants were included in the study. DLD was sub divided into chronic liver disease (CLD) -52.6%, Budd-Chiari syndrome (BCS)-3.3% and hepatic steatosis (HS) -4.8%. Patients who had heterogeneous or nodular liver texture, irregular or nodular margins and segmental/labor atrophy were more likely to had CLD. A statistically significant association of PPS widening and PHNS with the CLD group of DLD compared to other groups (p-value=<0.001) and HS with the female gender (p-value = 0.011). One-way ANOVA showed the highest mean liver size (18.44cm) for BCS and lowest mean liver size (15.10cm) for CLD.

CONCLUSION: All the morphological abnormalities were well depicted at Tri phasic CT exam. Chronic liver disease accounts for more than 4/5th proportion of diffuse liver diseases.

P-6

Imaging findings of hemosuccus pancreaticus in chronic pancreatitis

Momina Nain, Nadia Hanif, Sameera Ahmad
Department of Radiology, Punjab Institute of Neurosciences, Lahore, Pakistan.
E-mail: dr.mominanain@gmail.com

Hemosuccus Pancreaticus is a rare cause of hemorrhage in the gastrointestinal tract and results from rupture of splenic artery aneurysms into pancreatic duct. It is a complication of chronic pancreatitis, pancreatic tumors or pancreatic pseudocyst. Incidence of rupture of a pseudo aneurysm in chronic pancreatitis is 6.8% of patients with pseudocyst. Mortality ranges from 25% to 35% in treated cases. A 22 year old male who is a known alcoholic presented with repeated episodes of abdominal pain, haematemesis and malena since one year. Endoscopy and colonoscopy were done which showed no cause of upper GI bleed. On CT Abdomen and Pelvis with contrast there were multiple collections in lesser sac and paracolic gutter as well as a cystic lesion in the pancreas. For further diagnosis CT Angiography was done which showed that the cystic lesion is a partially thrombosed aneurysm/pseudo aneurysm of splenic artery.
Hemosuccus Pancreaticus is a rare case of rupture of splenic artery aneurysm/pseudoaneurysm into the pancreatic duct leading to upper GI bleeding secondary to multiple unregistered episodes of pancreatitis.

P-7

Importance of early diagnosis of choledochal cyst

Muhammad Hamza Khan, Marya Hameed, Kanwal Laique, Muhammad Fasih Mansuri, Mahaira Fatima, Humera Sohail
Department of Radiology, National Institute of Child Health (NICH), Pakistan.
E-mail: ihamzakhan145@gmail.com

A choledochal cyst is a congenital/acquired biliary tract anomaly with a propensity to grow into an abominable condition such as cholangiocarcinoma. It commonly presents during first year of life with an extremely rare association with cholelithaisis. Due to an initial diagnosis of cholelithaisis, they are often missed. We present the case of a 3-year-old child complaining of abdominal pain, non-bilious vomiting and fever. Subsequent ultrasound and CT scan imaging revealed a cystic hypo-density at porta-hepatis, mild intra-hepatic biliary channel dilation as well as radio lucent calculi in the cystic area. Prior differential diagnosis includes acute pancreatitis due to gall stones.The objective of this case report is to highlight the importance of early radiological diagnosis of congenital Choledochal cyst formation to avoid incorrect diagnosis and improve the disease prognosis. This will ensure patients with such a malformation are timely diagnosed and their quality of life is greatly improved with proper interventions.

P-8

Appendiceal mucocele if diagnosed preoperatively can help surgeon in on the management plan

Sana Iqbal, **Wajeeha Rahman**, Shandana Khan, Sidra Atta Ullah, Ayesha Amjad, Muneeba Javed
Department of Radiology, Northwest General Hospital and Research Centre, Peshawar, Pakistan.
E-mail: wajeeharahman93@gmail.com

Appendiceal mucocele if diagnosed preoperatively can help surgeon in on the management plan. Appendiceal mucocele first described by Rokitansky in 1842, is a rare disease with clinical picture resembling acute appendicitis. Its incidence is 0.2-0.4% of all appendectomies performed having female predominance. Preoperative diagnosis that differentiates mucocele from appendicitis is necessary for the best choice of surgical approach to prevent peritoneal dissemination and complications.An old female of 70 years presented with 4 days history of abdominal pain and vomiting. On examination the lady had tender abdomen. Laboratory investigations revealed normal leucocyte count. CT scan abdomen and pelvis was advised which showed focal dilatation of base of appendix with thinned out walls. There was minimal adjacent stranding. No free fluid noted. Findings were suggestive of appendiceal mucocele. Its diagnosis before surgery is very helpful for selection of appropriate surgical technique as increasing trend of laparoscopic appendectomy carries risk of perforation and resultant pseudomyxoma peritonei.

P-9

Tension gastrothorax - complicating congenital diaphragmatic hernia: Mimicker of tension pneumothorax

Sana Iqbal, **Farah Wahid**, Shandana Khan, Ayesha Amjad, Wajeeha Rehman, Fareeha Afzal
Department of Radiology, Northwest General Hospital and Research Centre, Peshawar, Pakistan.
E-mail: docfarahkhan@gmail.com

Tension gastrothorax is a fatal manifestation of congenital or acquired diaphragmatic hernia which usually presents with severe respiratory distress. It is often misdiagnosed as tension pneumothorax leading to unnecessary interventions. It occurs as a sequelae of intrathoracic stomach herniation followed by massive gastric distention with contralateral mediastinal displacement.
Here we report a patient presenting on 4th day of life with fever, tachypnea and severe respiratory distress. CXR showed hyperlucent left hemithorax with absent gastric bubble. Referring physician was suspecting tension pneumothorax. Radiology opinion was taken. CECT chest performed which showed herniation of stomach, spleen and transverse colon in left hemithorax with contralateral mediastinal shift. Oral contrast scan showed distended stomach with no distal passage of contrast, putting up with an additional diagnosis of duodenal atresia. Laparotomy affirmed duodenal atresia along with left intrathoracic herniated stomach, spleen, part of colon and small bowel. Duodeno-jejunostomy with surgical repair of hernia was performed.

P-10

Does abdominal distension matters: An unusual presentation of a usual pathology - Hepatocellular carcinoma with peritoneal carcinomatosis

Mariam Shahid, Marya Hameed, Iram Sagheer Khan, Sumera Mahar, Naveed Ahmed, Tariq Mahmood
Department of Radiology, Jinnah Post Graduate Medical Centre (JPMC), Karachi, Pakistan.
E-mail: mariam.shahid_100@hotmail.com

BACKGROUND: Hepatocellular carcinoma is most common primary malignancy of liver & 2nd leading cause of death in adult. Peritoneal carcinomatosis is a rare manifestation of HCC with about 2-10% incidence. Possible routes are rupture of tumor capsule, spread to lymph nodes, dissemination via ascitic fluid or direct extension.

CASE PRESENTATION: Here we report case of a 55 year old male with known hepatitis C, worsening abdominal pain & indigestion. Physical examination revealed tender right upper quadrant, initial blood workup showed slightly deranged liver enzymes. Ultrasound followed by CT scan revealed features of established portal hypertension & multicentric hepatoma on background of extensive peritoneal carcinomatosis. Alpha-fetoprotein level was also elevated. Histopathology favored diagnosis of HCC. Patient was advised urgent oncological & surgical consultation.

CONCLUSION: HCC with peritoneal carcinomatosis carries poor prognosis, however, studies suggest that timely resection of peritoneal deposits & parallel chemotherapy can increase chances of survival.

P-11

Diagnostic Accuracy of focused abdominal sonography in trauma for detecting abdominopelvic free fluid in a tertiary care hospital in South Asian developing country

Summar-un-Nisa Abbasi, Imrana Masroor, Anam Khan, **Muhammad Sami Alam**
Department of Radiology, Aga Khan University Hospital (AKUH), Karachi, Pakistan.
E-mail: muhammad.sami@aku.edu

OBJECTIVE: To evaluate diagnostic accuracy of ultrasound FAST in detecting free fluid in adult patients with abdominal trauma coming to the emergency department taking CT abdomen as reference standard.

METHODS: This is a cross-sectional studyconducted in Department of Radiology, Aga Khan University Hospital Karachi, Pakistan. 275 patients with abdominal trauma who presented to the emergency department and underwent ultrasound FAST examination were enrolled in our study. These patients then subsequently underwent CT abdomen in department of radiology AKUH. The study was conducted from 20/11/16 to 14/04/16.

RESULTS: Our results yielded sensitivity of 65.7%, specificity of 96%, positive predictive value of 85.7% , negative predictive value of 88.58% and diagnostic accuracy of 88%. Out of 25 false negative cases, 5 patients with pelvic fractures and hematoma had positive ultrasound FAST examination and 14 patients with pelvic fractures and hematoma formation in pelvis or extending into the retro peritoneum and could not be picked by ultrasound FAST examination. This reduces the overall sensitivity of ultrasound FAST.

CONCLUSION: Our study suggests that the diagnostic accuracy of ultrasound FAST in detecting free fluid is very good in cases of visceral organ injury and is limited when there are pelvic fractures with associated pelvic and retroperitoneal hematoma.Hence, overall ultrasound FAST is a useful modality in emergency settings along with clinical examination to correctly identify high risk patients, as it has high specificity.

P-12

Unique sequela of gossypiboma: Transileal migration of gossypiboma leading to small bowel obstruction

Sana Iqbal, **Sidra Atta Ullah**, Shandana Khan, Farah Wahid, Ayesha Amjad, Wajeeha Rehman
Department of Radiology, Northwest General Hospital and Research Centre, Peshawar, Pakistan.
E-mail: sidraattaullah28@gmail.com

Gossypiboma is a rare surgical complication which is considerably under reported because of medicolegal consequences associated with it. It should be considered in differential diagnosis of acute mechanical intestinal obstruction in patients who underwent laparotomies previously. Most of the patients with a retained gauze present in early postoperative period present with wound infection or fever. In some of the cases, presentation is late ranging from subacute intestinal obstruction, fistula formation, perforation or extrusion through anus. We report a 60-years-old gentleman admitted in emergency complaining of abdominal pain, distention and vomiting. He had past history of appendectomy 1 year back. His X ray abdomen was inconclusive so a CT scan was performed which revealed an abnormally thick walled and dilated ileal segment with mottled air lucencies in its lumen. Per operative findings included thickened and oedematous segment of ileum with perforations as well. Surgical specimen dissection revealed an intra ileal surgical sponge. After surgery patient was doing well and was sent back home.

P-13

Urethral diverticulum with urethra-cutaneous fistula, an unusual presentation

Faheemullah Khan, Naila Nadeem, Muhammad Aman, Vaqar Bari, Junaid Iqbal, Anwar Ahmed
Department of Radiology, Aga Khan University Hospital (AKUH), Karachi, Pakistan.
E-mail: islamianfellow@hotmail.com

Urethral diverticulum in male is a rare finding, often misdiagnosed and undertreated. Here we present a case of urethral diverticulum in a 26 year old male patient presenting with dysuria, frequency and recurrent urinary tract infections. On examination an external opening on the ventral aspect of the penile base was noted. Retrograde urethrogram revealed urethral diverticulum involving the penile urethra. The urethral diverticulum had a cutaneous communication representing urethra-cutaneous fistula. The patient was successfully managed by single-stage diverticulectomy and urethroplasty.

P-14

Dense scattered & massive sheath-like omentoperitoneal calcifications secondary to advanced metastatic ovarian carcinoma – A diagnostic dilemma for radiologists

Hira, Madiha Saeed Wahla, Muhammad Usman
Department of Radiology, Shifa International Hospital, Islamabad, Pakistan.
E-mail: itshira92@gmail.com

Most common and leading cause of morbidity and mortality in women of post-menopausal age group is ovarian cancer. Breast cancer is first most common cancer of women, followed by cervical and ovarian malignancies. Ovarian carcinoma is most notorious to be advanced in stage at the time of diagnosis and therefore the biggest diagnostic dilemma for radiologists is the fact that an ovarian carcinoma at the time of diagnosis has usually already involved pelvic and extra pelvic peritoneum rendering it an advanced stage. Adding to the concerns are few other factors, including its slow growth, insidious and vague clinical presentation and subtle symptoms. Other factors contributing to delayed diagnosis and consequent lack of timely management is lack of effective screening methods. Literature review reveals that the majority of ovarian cancers present as stage III at the time of first presentation. Metastatic deposits from ovarian carcinoma are seen in liver, adrenals, lungs and retroperitoneal lymph nodes as well as pelvic and extrapelvic peritoneal disease with omental caking. Omentoperitoneal calcifications have also been rarely reported as a presentation of metastatic ovarian carcinoma. Variousother causes of omental calcifications includepseudomyxoma peritonei, tuberculous peritonitis, meconium peritonitis: in newborns, undifferentiated abdominal malignancies: dystrophic calcification within the tumor masses, peritoneal oil granulomas: result of intraperitoneal administration of liquid petroleum, an attempted remedy for peritoneal adhesion formation, encapsulating peritoneal sclerosis, secondary to continuous ambulatory peritoneal dialysis (CAPD), hyperparathyroidism and post-operative heterotopic ossification.
Imaging modality has a crucial role in establishing the diagnosis, staging, re-staging and for follow-up after treatment. Ideally contrast enhanced CT or MR are modalities of choice, with CT scan being of higher yield. To the best of our knowledge and literature review, calcified omental metastatic disease is a rare presentation of ovarian metastatic disease and can provide ease in diagnosis for radiologists solving the mystery of cause of dense sheath like omental calcifications in women with ovarian pathologies.

P-15

Transverse testicular ectopia. A rare case report in an adult patient

Ibtesam Zafar, Syeda Zakia Shah, Ayesha Isani Majeed, Amir Khan, Muzammil Rasheed Butta
Department of Radiology, Pakistan Institute of Medical Sciences (PIMS), Islamabad, Pakistan.
E-mail: zafar_iqbal_100@hotmail.com

A 34 years old male presented to Radiology department of PIMS hospital for ultrasound scrotum with complain of scrotal pain. His complete blood count showed mild neutrophilia. General physical examination was unremarkable. Scrotal examination revealed tender scrotum with a large bulge towards the right side. Ultrasound scrotum revealed both testes lying in the right hemiscrotum. Right inguinal canal was bulky with both spermatic cords passing through the right inguinal canal. Left spermatic cord was crossing the right testis superiorly to reach left testis. Both epididymides appear bulky and heterogeneous with increased vascularity. In addition there was right inguinal hernia on cough impulse. Left inguinal canal was aplastic and blind ending. Left seminal vesicle also appeared hypoplastic. These findings were consistent with transverse testicular ectopia. Contrast enhanced CT Abdomen and pelvis including scrotum was performed which confirmed the findings. Crossed testicular ectopia (CTE)/transverse testicular ectopia (TTE) is a very rare but well known congenital anomaly, in which both gonads migrate toward the same hemiscrotum. Mean age of presentation is 4 years with most of patients being infants and children and diagnosis is usually post operativebut in our case, patient presented in adult age with epididymitis and diagnosis is made on radiological investigations.

P-16

Mullerian duct anomalies - Imaging findings

Zainab Qayyum, Mahwish Shoaib, Sadaf Arooj
Department of Radiology, Punjab Institute of Neurosciences, Lahore, Pakistan.
E-mail: zanbqym94@gmail.com

Mullerian ducts are paired embryological structures that undergo fusion and resorption in utero to form uterus, cervix, fallopian tubes and proximal two-thirds of vagina. Any disruption of Mullerian duct development can result in complex Mullerian duct anomalies (MDAs). US, HSG and MR imaging play important roles in evaluation of MDA.

Ultrasound of 16 year female with primary amenorrhea showed absence of uterus and incidental left renal agenesis. MRI confirmed absence of uterus, cervix and upper 3rd of vagina representing Mayer-Rokitansky-Kuster-Hauser syndrome. Ultrasound of another 14 year female with cyclical pelvic pain revealed anomalous uterine configuration with two visible horns. MRI confirmed two widely divergent uterine horns with single cervical canal, labelled as Bicornuate Unicollis MDA. Ultrasound of 20 year female with menorrhagia showed two separate uterine horns with separate cervical canals. MRI pelvis confirmed uterus didelphys.

MDAs are complex developmental anomalies that can manifest in variety of imaging scenarios.

P-17

True hermaphrodite with granulosa cell tumour

Zenab Farooq, Mariam Shah, Khurram Khalid Bhinder
Department of Radiology, Shifa International Hospital, Islamabad, Pakistan.
E-mail: zenabfarooq012@gmail.com

True hermaphrodites are seldom seen. Their malignancy incidence is as low as 1.9 - 2.6%. Our patient was referred from Afghanistan for workup of large abdominopelvic mass with complaints of hematuria and lower abdominal pain for one month. Contrast enhanced MRI of pelvis was performed which showed a large abdominopelvic mass with radiologic features likely suggestive of germ cell tumor, empty scrotal sac, and uterus without external vaginal communication and thinned out cervical canal communicating with prostatic urethra. Patient then undergone surgical removal of the tumor, as well as hysterectomy with bilateral salpingectomy. Histopathology confirmed the diagnosis of juvenile granulosa cell tumor arising from right ovary. Testis were documented as severely atrophied without any malignant cells, as well as uterus and bilateral fallopian tubes were negative for neoplastic invasion. The topics with such presentations are very infrequently reported.

P-18

Acquired uterine AV Malformation. Rare complication in scar pregnancy: Case report and literature review

Gulnaz Shafqat, Sundas Basharat, Anam Khan, Mehak Nazir
Department of Radiology, Aga Khan University Hospital (AKUH), Karachi, Pakistan.
E-mail: gulnaz.shafqat@aku.edu

AV Malformation is a rare complication in scar pregnancy can be potentially life threatening secondary to uncontrolled hemorrhage.

We report a case of 36 years old woman with history of previous 2 caesarian sections, diagnosed as a case of ectopic scar gestation in her third pregnancy. She was managed conservatively with methotrexate. Her beta HCG dropped from 29458.8mlU/ML to 3 mlU/ML subsequently. Despite the declining values of plasma ß-hCG levels, the patient had mild vaginal bleeding. On follow up ultrasound the gestational sac at the scar replaced by a heterogeneous mass with surrounding numerous dilated and tortuous blood vessels with high flow velocities. Findings were concluded as scar pregnancy with rare complication of AV malformation, confirmed on additional imaging including CT and MR pelvis with contrast revealing multiple enhancing serpiginous structures in lower uterine segment at the scar site. She was advised for embolization for which she refused. After a week She came in the ER with heavy episode of vaginal bleeding. She subsequently underwent uneventful selective uterine artery embolization. Post embolization her bleeding was stopped and she is now being considered for fertility sparing surgery.

P-19

A spectrum of MRI findings for morbidly adherent placenta: A need for standardization

Khadija Arif
Department of Radiology, Shaikh Zayed Hospital, Lahore, Pakistan.
E-mail: khadijaarif@hotmail.com

OBJECTIVE: This study is directed to establish the diagnostic accuracy of MRT imaging in morbid adherence of placenta (MAP). It also determines the spectrum of MRI findings that are firmly predictive of MAP and those which can lead to a misdiagnosis.

METHODS: A retrospective study on 22 women with suspected morbidly adherent placenta was carried out. MRI was performed due to an inconclusive ultrasound report. MRI was reported by consensus of two proficient radiologists. Histopathological reports were taken as the gold standard for patients who underwent a hysterectomy. Per-operative findings were kept gold standard for negative cases in whom there was uneventful retrieval of placenta at the time of Cesarean section. Statistical analyses were applied to ascertain the association of different MRI features with MAP diagnosis.

RESULTS: MRI correctly predicted MAP in 15 patients, excluded it in 5 cases and two of them were misdiagnosed. The Sensitivity of MRI in the study

is 100%, Specificity 71%, Positive Predictive Value 88%, Negative Predictive Value 100%, and Accuracy is 90%. Highly inferable MRI findings are T2 dark bands, heterogeneous placental signals, direct invasion in adjacent tissue, and focal myometrial invasion with detection rates of 100%, 91%, 82%, and 82% respectively. The misleading findings include myometrium thinning (73%), abnormal placental vessels (73%), and tenting of the urinary bladder (45%).

CONCLUSION: MRT is recommended imaging modality for the diagnosis of morbidly adherent placenta, however inaccurate apprehension of observations can misidentify abnormal placentation.

P-20

Assessment of prostate lesion using PI-RADS 2.1 in correlation with biospy findings; our expereince at Shifa International Hospital

Belqees Yawar Faiz, **Khurram Khaliq Bhinder**, Salma Gul Hira Rana, Mariam Shah Ahmed Moqeet, Zenab Farooq, Humaira Bashir, Sabiyal Sagheer
Department of Radiology, Shifa International Hospital, Islamabad, Pakistan.
E-mail: kkbhinder@yahoo.com

OBJECTIVE: The objective of this article is to correlate the PI-RADS grading with the biopsy findings.

STUDY DESIGN: Retrospective study

PLACE AND DURATION OF STUDY: Radiology Department, Shifa International Hospital, from 2020 to 2021.

METHODOLOGY: Total of 72 patients were selected from the radiology database retrospectively from 2020 to 2021. MRI scans were performed on Siemens 3 tesla and reviewed by consultants after which their PI-RADS was calculated.

RESULT: These patients had mean age of 64, mean prostatic volume of 54.5cm3 and mean PSA density of 0.70229. 2 patients were labelled with PI-RADS score 0 and biopsy wasn't performed (100%). 2 patients were labelled with PI-RADS score 1 and biopsy wasn't performed (100%). 9 patients were labelled with PI-RADS score 2 and biopsy wasn't performed (100%). 11 patients were labelled with PI-RADS score 3 and biopsy wasn't performed in 7 patients (63.6%). 3 patient's opted for biopsy but results were negative for adeno-carcinoma (27.3%). 1 patient result came out positive for adenocarcinoma (9.1%). 23 patients were labelled with PI-RADS score 4 and biopsy wasn't performed in 13 patients (56.5%). 10 patients' opted for biopsy, results were negative for adenocarcinoma for 7 patients (30.4%) while results of 3 patients turned out to be adenocarcinoma (13%). 24 patients were labelled with PI-RADS score 5 and biopsy wasn't performed in 10 patients (41.7%). 14 patient's opted for biopsy, results were negative for adenocarcinoma for 5 patients (20.8%) while results of 9 patients turned out to be adenocarcinoma (37.5%). 1 patient was labelled with PI-RADS score 6 and the biopsy result was positive for adenocarcinoma (100%). Bone metastasis was frequent and was seen in 21 % of patients followed by neurovascular bundle involvement which was seen in 18.1% of the patients. 16.7 % of patients had seminal vesicles involvement and extra-cellular spread. Internal iliac and external iliac lymph nodes were more frequently involved i.e seen in 22.2% and 20.8% patients respectively. However, para-aortic and obturator lymph nodes are very involved in very few numbers of patients.

CONCLUSION: This PI-RADS scoring system in MRI showed a statistically proven significant correlation with adverse histopathological findings. A Higher PIRADS score may help to project poor prognostic consequences like results more in favor of neoplasm, extracellular spread, bone metastasis, neurovascular bundle involvement, seminal vesicle involvement, and lymph node involvement. Thus, PIRADS scoring provides a potent substructure for evaluating the livelihood of prostate cancers on MRI.

P-21

Uncommon presentation of pyometrium in a post menupausal women

Raana Kanwal, Samreen Aslam, Belqees Yawar Faiz
Department of Radiology, Shifa International Hospital, Islamabad, Pakistan.
E-mail: raanakanwal@hotmail.com

INTROUDCTION: Pyometra is an uncommon gynecologic condition. On CT scan it appears as a fluid collection bounded by a thick myometrial wall. However, with progressive distension of the uterus, overstretching and thinning of the myometrial wall follows. Pyometra often appear, therefore, as a collection bounded by thin surrounding walls and simulate pelvic abscesses. We present a case of unusual presentation of pyometrium in a postmenopausal patient.

CASE REPORT: A 75 year old women presented to emergency department with lower abdominal pain. She had been running fever for 15 days and was treated on the lines of urinary tract infection in outside hospital premises. Upon clinical examination, her abdomen was distended and non- tender yet guarded. Upon auscultation, bowel sounds were inaudible. Patient was sent to radiology department for post-contrast CT abdomen and pelvis. It revealed pneumoperitoneum and a large well-defined midline pelvic collection with internal fluid CT attenuation. Uterus was not visualized, where as normal vaginal and cervix were seen. Sigmoid colon was closely abutting at left lateral aspect and was inseparable at few site. No history of hysterectomy was given. Patient denied any history of radiotherapy or surgery.

She was taken into OR for emergency laparotomy which revealed, the large fluid filled uterus closely adherent to sigmoid colon. It was separated from it. While it was being done the fragile wall of uterus got ruptured. Peritoneal lavage was done. No evidence of pneumoperitoneum could be seen during the laparotomy. Patient was handed over to gynecology department who performed hysterectomy. Biopsy was negative for malignancy with normal CA-125 value.

CONCLUSION: A high index of suspicion should be raised when pelvic collection is noted in the absence of an identifiable uterus. Although the uterus is atrophic and small after menopause and may not be obvious on CT, identification of the uterus is always possible with transvaginal ultrasound.

P-22

Utero-Vesical fistula; rare iatrogenic complication following cesarean section

Rehana Murad, Gulnaz Shafqat, Anam Khan, Salma Azam,
Department of Radiology, Aga Khan University Hospital (AKUH), Karachi, Pakistan.
E-mail: rehana-gowani@hotmail.com

Utero-Vesical fistulas are the rarest of all urogenital fistulas, with most cases occurring after cesarean section. Its prevalence is increasing worldwide because of the increasing indications of cesarean section. Patient usually presents with urine leak, amenorrhea and cyclic hematuria. Herein, we present a case of patient presenting with complain of severe urinary tract infection following cesarean section. Review and update of recent literature regarding the diagnostic imaging of this entity are described.

P-23

Spinal dural AV fistula with arachnoiditis; review of imaging findings in this unusual disease on MRI

Aqsa Faryad, Faiza Afzal, Robina Batool, Mahjabeen Masood
Department of Radiology, Mayo Hospital, Lahore, Pakistan.
E-mail: docaqsa92@gmail.com

The purpose of this study is to present a case to aid in the assessment and diagnosis of this unusual pathology.

Delayed diagnosis of spinal dural AV fistula with characteristic imaging features results in high rates of additional disability that are often irreversible despite surgical or endovascular treatment of the fistula.

MRI of T/L spine with I/V contrast was done in a 42 year old male with low backache showing thickened spinal cord and conus medullaris, intramedullary high signal changes from D10 to D12 on T2/STIR. Filum terminale nerve roots appeared oedematous & clumped. Conus was at normal position (L1). Perimedullary serpinginous flow void areas noted along the dorsal aspect of spinal cord extending from D10 to L1 showing post contrast enhancement along with intramedullary enhancement at D10 level. Besides multilevel non compressive disc bulges and disc desiccatory changes were found.

MRI can help in early detection of this unusual disease entity and prevent complications associated with delayed diagnosis by early management.

P-24

Different manifestations of mucormycosis in COVID-19 patients on MRI brain with IV contrast

Afshan Shakir, Mahjabeen Masood, Nimra Zaheer, Mahjabeen Kanwal
Department of Radiology, Mayo Hospital, Lahore, Pakistan.
E-mail: afshanshakir786@gmail.com

There are increasing case reports of rhino-orbital mucormycosis in people with coronavirus disease 2019 (COVID-19), especially from Indian subcontinent. Diabetes mellitus (DM) is an independent risk factor for both severe COVID-19 and mucormycosis. We aim to present a case series reported in radiology department of Mayo hospital Lahore to find out the different menifestations of this potententially fatal fungal disease in COVID-19 patients. Since, MRI plays a pivotal role in diagnosis, it can also help the clinician for timely management of the complications and therefore treatment.

The primary reason that appears to be facilitating mucorales spores to germinate in people with COVID-19 is an ideal environment of hypoxia, diabetes, new-onset hyperglycemia, steroid-induced hyperglycemia, metabolic acidosis, diabetic ketoacidosis, increased ferritins and decreased phagocytic activity of white blood cells WBC due to immunosuppression coupled with several other shared risk factors including prolonged hospitalization with or without mechanical ventilators.

Mucormycosis is an angioinvasive disease and involves sinonasal region and complications include radiological findings like orbital extension, intracranial extension and cavernous sinus involvement coupled with intracranial ICA thrombosis making worse prognosis. We will present 4 MRI brain cases including involvement of ICA and cavernous sinus, intracranial extension and disease limited to the sinonasalregion. In a nutshell, all efforts should be made to maintain optimal glucose and only judicious use of corticosteroids in patients with COVID-19 along with early imaging done to save patient's lives.

P-25

Familial mutiple cavernous malformation syndrome; typical presentation of a rare malady

Zeeshan Ghias Khan, **Ahmed Moqeet**, Samina Akhter, Saman Nosheen
Department of Radiology, Shifa International Hospital, Islamabad, Pakistan.
E-mail: ahmedmoqeet2275@gmail.com

Cavernous malformations (CM) are hemorrhagic vascular malformations established by dilated venous channels contained by a single layer of endothelial cells, without a cover of elastic tissue or smooth muscle. Cases are sporadic or hereditary: the former being way more frequent. Familial multiple cavernous malformation is an uncommon presentation of cavernous malformations (follows autosomal dominant pattern with incomplete penetrance). Familial multiple cavernous malformations syndrome (FMCMS) represents about 20% of the cases, with numerous lesions in the elderly. Most of the cases present with seizures and focal neurological deficits. MRI enables accurate diagnosis by combining findings in different sequences, providing adequate clinical-surgical management, prognostic definition, and follow-up assessment.

A 25 years old patient with known epileptic history for 4 years, presented in a semiconscious state with frothing from mouth, urinary incontinence and fits for the past 4 days. Family history was positive with similar symptoms in father. MRI brain with contrast was performed which showed multiple T2 hyper intense areas in left cerebral hemisphere with surrounding hemosiderin rim giving popcorn-like appearance (hemoglobin degradation products) and showing blooming artifacts on SWI sequences. These findings were typical of cavernous malformations. Given family history and more than 5 cavernous, patient was diagnosed with familial multiple cavernous malformation syndrome.

P-26

Dural enhancement with neuropathy in a T-ALL patient undergoing chemotherapy: A case report

Arsalan, Belqees, Hafsa, Sabiyal, Ayaz Mir
Department of Radiology, Shifa International Hospital, Islamabad, Pakistan.
E-mail: drbelqees@gmail.com

Clinically significant intradural spinal involvement in leukemia especially meningeal involvement is rather uncommon.

A 25 year old male diagnosed case of T-ALL (T Cell Acute Lymphocytic Leukemia) presented to us with history of sudden onset bilateral facial nerve weakness. MRI with contrast was done which showed dural enhancement in various regions. CNS involvement by lymphocytes or leukemic cells can result in enhancement of dura on contrast studies. Presentation of facial nerve palsy in leukemic patients has been documented as an early sign of relapse.

P-27

Sinus pericranii – incidental finding in two syndromic patients

Aasma Nudrat Zafar, Saqib Qayyum Ahmad
Department of Radiology, Fauji Foundation Hospital & Foundation University Medical College, Rawalpindi, Pakistan.
E-mail: aasmarad@gmail.com

Sinus pericranii or subgaleal varix is an anomalous venous communication between intracranial dural sinuses and extracranial vessels through an emissary vein. These varicosities are affected by changes in intracranial pressure and can be complicated by thrombosis. There is an association with systemic angiomas and craniosynostosis. They are commonly frontal in location, followed by parietal and occipital regions.
We present case reports of two syndromic patients, where sinus pericranii was incidental finding on imaging. Vessels were patent on contrast examination and confirmed on Doppler ultrasound. Angiography and endovascular management were not performed.

P-28

Joubert syndrome presenting as delayed development

Faiza Afzal, Bharat Sharma, Robina Batool, Nawaz Rashid, Mahjabeen Masood
Department of Radiology, Mayo Hospital, Lahore, Pakistan.
E-mail: faizaafzalpk@hotmail.com

Developmental delay with or without fits is more frequently encountered presentation noted nowadays. The imaging modality of choice is MRI to rule out any underlying pathology or structural abnormality. Even one of the rare syndromes like Joubert syndrome is confidently diagnosed on MRI combined with clinical scenario. Joubert syndrome has a prevalence of 1 in 100,000. Presentation is with developmental delay, hypotonia, ataxia along with other systemic associations. Characteristic MRI finding is of Molar tooth sign along with cerebellar findings. A 9 month old infant from a consanguineous marriage was referred with complaints of delayed milestones. Antenatal history was unremarkable, however postnatal history of hospital admissions was present. MRI brain was performed in our radiology department on 1.5 Tesla GE machine. Axial T1WI and T2WI sequences revealed abnormally oriented, thickened and elongated superior cerebellar peduncles forming characteristic molar tooth sign. On the basis of MRI findings coupled with clinical data, a diagnosis of Joubert syndrome was made. MRI is radiation-free imaging modality of choice in pediatric age group presenting with developmental delay for an early and accurate diagnosis and better management and patient care.

P-29

Muscle eye brain disease (MEB): Seeing beyond the obvious constellation of imaging findings clinching diagnosis of a rare muscular dystrophy in a patient being treated as a case of congenital hydrocephalus

Hafsa Aquil, Atiq ur Rehman Slehria, Mobeen Shafique, Zafar Amin, Sara Khan, Hira Zahid, Zainab Shehzadi
Department of Radiology, Armed Forces Institute of Radiology and Imaging (AFIRI), Rawalpindi, Pakistan.
E-mail: hafsa_aquil@hotmail.com

Congenital brain malformations are a vast spectrum of pathologies which are as intricate and complex as brain matter itself and require careful identification of individual anatomical structures to reach at a consolidative diagnosis. Many of the congenital malformations of brain present with ventricular enlargement synonymously termed as hydrocephalus. In many conditions ventricular dilatation is not the pathology per se rather is part of syndromic spectrum the identification of which has important management implications. Muscle eye brain (MEB) disease is a rare spectrum of congenital muscular dystrophies caused by alpha dystroglycanopathies secondary to mutations in 15 of the genes responsible for O- glycosylation of alpha dystroglycan. It has classical CNS imaging manifestations which if carefully scrutinized can help reach at a rare diagnosis.

A 3 year old boy presented with history of nystagmus, delayed developmental milestones, generalized spasticity and fits since birth. His birth history was uneventful, was born full term with no history of delayed cry. On the basis of previous MR imaging the child was being treated and followed up as a case of congenital obstructive hydrocephalus. However, on account of failure of improvement of symptoms a repeat MRI brain was advised which redemonstrated ventriculomegaly however no definite cause of ventricular outflow obstruction was delineated. Moreover, striking note was made of constellation of imaging findings including bilateral posterior staphyloma, absent septum pellucidum, hypoplastic flattened pons and tectal plate, bilateral cerebellar cysts and pachygyria with bilateral symmetrical areas of dysmyelination. On the basis of imaging spectrum patient was labeled as case of Muscle eye brain (MEB) disease, a non-curative genetically transmitted inherited disorder thus providing a working diagnosis and avoiding further unnecessary workup. Because of non-availability of exceedingly expensive genetic testing tools in developing and underdeveloped world, cross sectional state of the art imaging can prove to be beneficial in making a diagnosis; if not a substitute to molecular diagnosis and therefore determining the course of effective management. Reiterating the fact that the aim of imaging and imaging interpreter should be towards fitting the pieces of puzzle to solve the unsolved mysteries.

P-30

Anti NMDA receptor encephalitis and its association with thymic lesion

Belqees Yawar Faiz, **Mariam Shah**, Zenab Farooq
Department of Radiology, Shifa International Hospital, Islamabad, Pakistan.
E-mail: shahmariamshah4772@yahoo.com

Anti NMDA encephalitis is a rare sub-entity associated with the broad category of autoimmune encephalitis, also described previously as limbic encephalitis. More than two thirds of the cases reported in literature are of teenage females with an underlying ovarian teratoma. We present here the novel case of a young boy who presented with fever and fits and was diagnosed as anti NMDA encephalitis confirmed by CSF analysis with underlying association of thymic pathology, uncommonly identified in Asian populations. Anti NMDA encephalitis belongs to group ll of the autoimmune encephalitis spectrum, which typically present as unexplained seizures, neuropsychiatric disorder; symptoms mostly characterized by psychosis and memory impairment with abnormal movements in the early stage, and seizures and a depressed level of consciousness emerge as latter symptoms. Contrast enhanced magnetic resonance brain imaging is the mainstay of imaging diagnosis, however confirmation is based on CSF analysis with identification of NMDAR antibodies as well as supporting evidence of EEG findings. NMDARs expressed by thymic cells play pathophysiological role in autoimmune encephalitis by breaking down tolerance and promoting autoimmunity through antigen sensitization and activation of proinflammatory cytokine cascade.

P-31

Developmental venous anomaly: MRI, CT and angiographic features

Nayab Motasim
Department of Radiology, Hayatabad Medical Complex, Pakistan.
E-mail: umotasim84@gmail.com

Developmental venous anomaly, formerly known as venous angioma, is the most common congenital vascular malformation of the brain. It is usually asymptomatic and discovered incidentally. Here we report a case of venous angioma, who presented to us with acute onset headache and seizures. Our study indicates magnetic resonance image, computed tomography and angiographic findings of developmental venous anomaly in this patient.

CASE REPORT: A 21 year old female patient with a history of generalized tonic clonic seizures and acute onset headache was referred to us through medical ER for further management . No neurologic deficits were present on physical examination. MR imaging of the brain was performed. T2-weighted and FLAIR images demonstrated a linear vascular structure extending from body of left lateral ventricle to the cortical surface in left parietal region showing enhancement on post contrast T1-weigted image, suggestive of DVA. The remainder of the MR imaging examination was unremarkable. CT with contrast revealed a linear enhancing structure. The angiography gives the definitive findings of a DVA in the left parietal lobe by showing typical dilated medullary veins – caput medusae appearance.

P-32

Dural and scalp lymphoma in a 14 year old child mimicking a subdural and subgaleal hematoma

Atif Rana, Belqees Yawar Faiz, **Rabi Anwar**, Mina'a Shahid
Department of Radiology, Shifa International Hospital, Islamabad, Pakistan.
E-mail: drbelqees@gmail.com

14 year old boy presented with complaints of sudden onset of headache and transient right arm and forearm weakness with partial focal seizures. Patient had undergone CT scan from outside facility which showed a subdural hematoma with hyperdensity in left temporoparietal region with another hyperdensity in adjacent scalp tissues. He had a CT scan done at our set up which revealed a left subdural collection with involvement of left temporoparietal region. There was also expansion, diffuse sclerosis and heterogenous appearance of the marrow with scattered lytic areas in diploic space of the left frontal bone. Patient was then operated upon and biopsy of the brain lesion was sent for histopathology which was found to be consistent with precursor B acute lymphoblastic lymphoma. Immunohistochemistry was also performed which showed CD20, CD79a and Tdt to be positive. This was a very atypical presentation of acute lymphoblastic lymphoma on imaging.

P-33

Unusual signals in corpus callosum in a patient with breast carcinoma

Raima Kaleemi, Fatima Mubarak, Shazad Shamim
Department of Radiology, Agha Khan University Hospital (AKUH), Karachi, Pakistan.
E-mail: raima.kaleemi@aku.edu

BACKGROUND: Corpus callosum being a midline structure has its own significance anatomically and pathologically. Lesions of the corpus callosum have been well defined in different literatures. The corpus callosum is a major white matter tract crossing the interhemispheric fissure. MRI has proved to be the ideal study to detect abnormalities of the corpus callosum. Its various pulse sequences have made easy in detection of lesions in corpus callosum. We present a case of 55 year old female patient with known case of left breast carcinoma status post mastectomy presented with communicating hydrocephalus and post shunting showed abnormal signals in the corpus callosum.

On MRI brain with contrast, gross communicating hydrocephalus was seen which results in significant compression on the corpus callosum being in midline, effacement of the adjacent parenchyma and also periventricular CSF seepage.

The knowledge about the morphological as well as signal changes and their different mechanism is important to avoid miss diagnosis or over-reporting in such patients.

P-34

A classic case of Lissencephaly with band heterotopia

Asra Shaikh, Raima Kaleemi, Kiran Hilal
Department of Radiology, Agha Khan University Hospital (AKUH), Karachi, Pakistan.
E-mail: asra.shaikh@aku.edu

A 4 year old female patient presented with global delay. She was advised with the brain MRI. The brain MRI showed bilateral symmetric smooth surface of the posterior cerebrum extending anteriorly up to the sylvian fissure with a few sparse and poorly formed gyri. There was a thick band of abnormal T1, T2 signal intensity seen deep to the cerebral cortex. It parallels the cortex in contour and signal intensity. Mild enlargement of the occipital horn of both lateral ventricles. Described imaging features are consistent with Lissencephaly type I - subcortical band heterotopia spectrum. Considering the posterior predilection of subcortical heterotopia further workup for the mutations of LIS-1 was also recommended.

Lissencephaly along with subcortical band heterotopia falls in the spectrum of cortical malformations. Lissencephaly describe a thick cortex with loss of normal cortical lobulations giving it a smooth appearance. Subcortical band heterotopia is a thick band of abnormal neuronal cells beneath the cortex. The Lissencephaly spectrum includes agyria, pachygyria, and subcortical band heterotopia. Band heterotopias are still a rare entity of cortical malformations and a female predilection is noticed.

The more recent advances in understanding the Lissencephaly gyral malformation revealed the unique genetic cause affecting LIS1 and DCX gene. A large majority of patients have classic Lissencephaly pattern in which posterior cerebral cortex is more involved, as in our case, which is almost exclusively caused by the mutation in LIS-1 gene. Our case is a classic case of Lissencephaly with subcortical band heterotopia, which is rarely seen.

P-35

Bilateral carotid cavernous fistulas (CCF) masquerade of altered flow dynamics guide from diagnosis to successful IR guided endovascular management

Raza Rahim Hyder, Sohail Akhter, Uzair Hassan, Atiq ur Rehman Slehria, **Hafsa Aquil**
Department of Radiology, Armed Forces Institute of Radiology and Imaging (AFIRI), Rawalpindi, Pakistan.
E-mail: hafsa_aquil@hotmail.com

Carotid cavernous fistula (CCF) is a rare, potentially treatable vascular anomaly clinically presenting with ocular manifestations including exophthalmos, chemosis, conjunctival injection, proptosis and progressive visual loss. It has varied etiologies ranging from identifiable causes like trauma and connective tissue disorders to idiopathic etiologies where the culprit remains masked posing significant hindrance in timely diagnosis. The basic underlying pathology is anomalous communication between internal carotid artery or branches of ICA/ECA and cavernous sinus with subsequent retrograde venous flow contributing to ocular symptoms. We present a rare case of bilateral carotid cavernous fistulas in a 70 years old female with demonstration of bilateral CCFs on DSA and altered flow dynamics from right to left side producing left side complaints. An elderly lady presented with sudden onset swelling of left eye with ptosis, left sided headache and whistling sounds in the left ear. MRI and CECT findings were indicative of left carotid cavernous fistula (CCF). DSA showed bilateral indirect carotid cavernous fistulas with predominant flow from right sided higher flow fistula. Decision to coil embolize right cavernous sinus was made and 9 detachable platinum coils were placed. Rapid improvement in the symptoms was observed except ptosis which was relieved by 7th week post-intervention.

P-36

MRI brain findings of Cerebral Palsy patients; an institution based study in The Children's Hospital Lahore

Saba Fatima, Amber Goraya, Bushra Mohsin, Abid Ali Qureshi
Department of Paediatric Radiology, The Children's Hospital and Institute of Child Health, Lahore, Pakistan.
E-mail: sabaazhar.23@gmail.com

OBJECTIVE: To evaluate MRI brain findings in Cerebral Palsy patients and categorize according to MRICS.

MATERIALS AND METHODS: 59 patients with clinical diagnosis of Cerebral Palsy were included for study (6 patients could not be sedated for MRI). After informed consent, MRI brain was conducted on these patients including standard imaging protocols in Department of Pediatric Radiology, The Children's Hospital Lahore. The scans were interpreted and categorized according to MRICS by paediatric radiologists. Frequency of age, gender and different imaging patterns were calculated using SPSS 24.

RESULTS: The study included 53 patients ranging in age from 2-13 years with 20 females and 33 males. Most common MRICS pattern was predominant white matter injury (58.5%) followed by predominant gray matter injury (11%). The least common pattern found was maldevelopments in 3.8% patients. Further subcategorizing the MRI patterns, periventricular leukomalacia was most frequent followed by multicystic encephalomalacia. 5 patients also showed normal MRI with no imaging evidence of brain injury. Multiple imaging findings were also noted in patients with predominant white matter injury commonly associated with gray matter injury and cerebral atrophy.

CONCLUSION: Considering very low frequency of normal MRI brain in CP patients, this study concluded MRI brain helpful in diagnosis of Cerebral Palsy with MRICS as a good qualitative categorization method.

P-37

Thinking out of the box - Rare cause of cord compression in a young child with spastic paraparesis

Sara Khan, Atiq ur Rehman Slehria, Hafsa Aquil, Bushra Nayyar, Zafar Amin, Fareeha
Department of Radiology, Armed Forces Institute of Radiology and Imaging (AFIRI), Rawalpindi, Pakistan.
E-mail: drsarakh@gmail.com

Asymptomatic vertebral hemangiomas are a common incidental finding on MRI, in middle age groups and don't require any treatment or surveillance. Incidence of vertebral hemangiomas is 10% on Autopsy. However, in 0.9-1.2% these lesions cause symptoms due to aggressive features with resultant epidural compression on cord and compressive myelopathy. Aggressive hemangiomas cause bone expansion, extension into neural arches, erosion through cortex and large extra-osseous soft tissue components. This rare subtype of hemangiomas is very uncommonly seen in paediatric patients causing features of spinal stenosis. Importance of Pre-operative imaging diagnosis cannot be undermined in such cases liable to excessive intra-operative hemorrhage, especially if unexpected. Characteristic imaging features, though uncommon for age group help to arrive at definitive diagnosis and help formulate safe management plan.

We present a rare case of cord compression leading to neurological symptoms by an aggressive vertebral hemangioma with extra-osseous extension. Our patient, a 12 year old boy presented with three months history of tingling sensation in lower limbs, with spastic paraparesis and reduced power in both legs (4/5). His imaging revealed abnormal hyperintense signals on TIWS/T2WS with internal trabeculae in DV4 vertebral body, not suppressed on STIR sequence, extending posteriorly into neural arches. Extraosseous extension in form of an epidural soft tissue mass was noted causing compression on spinal cord, evident as complete cut-off on MR myelogram. Soft tissue component was also noted extending into right paravertebral region. Typical "polka dot" appearance was noted on Computed Tomography with expansion of neural arches and soft tissue component showing internal calcific densities or phleboliths. Patient underwent surgery and histopathology revealed hemangioma. Differentials in this age group included lymphoma, eosinophilic granuloma or metastatic deposit. Aggressive hemangiomas are usually found in middle aged with very rarely found in paediatric age group. However, characteristic imaging findings help to arrive at diagnosis which is very important in this case because of hish risk of peroperative hemorrhage.

P-38

Where Radiologists can make a difference - Radiological differentiation between neurotoxoplasmosis and lymphoma in HIV positive patients, tailoring patient's management plan

Sara Khan, Atiq ur Rehman Slehria, Bushra Nayyar, Zafar Amin, Hafsa Aquil, Owais
Department of Radiology, Armed Forces Institute of Radiology and Imaging (AFIRI), Rawalpindi, Pakistan.
E-mail: drsarakh@gmail.com

After lungs, CNS is the system most commonly affected organ by HIV, with autopsy findings in upto 70% of patients. Commonest manifestations are HIV encephalopathy, opportunistic infections, lymphoma, progressive multifocal leukoencephalopathy and cryptococcosis. Patients with toxoplasmosis and lymphoma present with confusion, lethargy and focal neurological deficits. Imaging findings in toxoplasmosis and lymphoma overlap to a great deal , making difficulty in diagnosis. However, certain features like location, hemorrhage, calcifications and pattern of enhancement may help in differentiation. MR spectroscopy may substantiate imaging findings to some extent.

We report a case of 43 year old HIV positive male patient who presented with headache and altered level of consciousness. His MRI brain revealed three intra-axial lesions involving thalamus, frontal lobe and head of caudate nucleus. These lesions show internal hypointensity with peripheral hyperintense rim on T1WS, with predominant hyperintense signals on T2WS. Marked adjacent vasogenic edema was noted. Central diffusion restriction was noted in one lesion while others showed peripheral rim of restriction. All lesions revealed peripheral rim enhancement on post contrast sequences. MR spectroscopy revealed elevated lipid and lactate doublet peaks with mildly attenuated NAA peaks. Mildly elevated choline peak was noted (a marker of cellular turnover) with Choline/NAA and Choline/Creatine ratios of 1 and 1.2. Based on these findings, a diagnosis of neurotoxoplasmosis was made. Patient's serology for toxoplasmosis was sent which turned out positive. Arriving at correct diagnosis with imaging features is very important as toxoplasmosis is most treatable infective etiology in HIV positive patients in order to help physician formulate a targeted management approach.

P-39

Are MRI characteristics sufficient to differentiate between genetic subtypes of gliomas?

Sobia Mazhar, Huma Sarwar, Ali Mansoor, Nawaz Rashid, Mahjabeen Masood
Department of Radiology, Mayo Hospital, Lahore, Pakistan.
E-mail: drsobiamshahid@gmail.com

The primary brain tumors develop from glial cells. These are graded according to how aggressive they appear under the microscope into high grade III & IV, or low grade I & II. Recently, the low grade gliomas have been further characterized according to their genetic make up into three groups: gliomas with 1p/19 codeletion & isocitrate dehydrogenase (IDH) mutation, which comprises of oligodenrogliomas; group with IDH mutation comprising of astrocytomas and group with neither 1p/19 codeletion, nor IDH mutation.

Presence of both these features have a positive prognostic value. The main modality of imaging for gliomas is MRI. In this study we will try to establish the imaging features of gliomas using conventional MRI sequences, T1, T2, DWI, MRS and post contrast T1. It is seen that the MRI characteristics differ significantly between varying types of gliomas. IDH mutant gliomas have sharp borders and less enhancement. 1p/19q codeleted gliomas have higher rate of edema, ill defined borders, heterogeneity, necrosis and calcifications. By using MRI characteristics, and establishing a correlation between the genotype, histology and imaging phenotype, we may obliveate the need for biopsy and reduce the morbidity associated with it.

a) group with IDH mutation and 1p/19q codeletion, which comprises of oligodendrogliomas, b) group with IDH mutation and without 1p/19q codeletion where most of these have TP53 mutations and ATRX mutations and comprise of astrocytomas, and c) group with neither IDH mutation nor 1p/19q co-deletion.

P-40
Multi-modality approach in diagnosis of spinal AVM

Usman Sani, Awais Ahmed, Robina Batool, Nawaz Rashid, Sehrish Rubab, Mahjabeen Masood
Department of Radiology, Mayo Hospital, Lahore, Pakistan.
E-mail: usman_sani87@yahoo.com

Spinal AVMs represent 25% of spinal vascular malformations. Although MRI constitutes first choice modality in suspected spinal AVM, a definitive diagnosis of disease and the choice of suited therapeutic approach rests on selective spinal angiography. Treatment options are surgery, chemoembolization and radiation therapy, depending upon the size and location of AVM.

Our 19 year old male patient with bilateral lower limb weakness and urinary incontinence underwent CT and MRI dorsal spine which showed multiple serpiginous tortuous vessels within dorsal lumbar thecal sac, suggestive of AVM. Subsequently, conventional angiography confirmed the origin of feeder vessel from the iliolumbar branch of right internal iliac artery. Vesicoureteric reflux and right sided aortic arch were also noted. A multidisciplinary multimodality approach in the clinical settings of early onset neurological symptoms in young patients can lead to early detection and treatment of spinal AVM.

P-41
MR Neurography in evaluation of peripheral nerves other than brachial plexus, our experience at Shifa International Hospital: A Pictorial review

Zeeshan Ghias Khan, Belqees Yawar Faiz, Hira Rana, Saman Nosheen
Department of Radiology, Shifa International Hospital, Islamabad, Pakistan.
E-mail: drbelqees@gmail.com

BACKROUND: Magnetic resonance neurography (MRN) is an essential tool to discover abnormalities of peripheral nerves. This pictorial review shows the MRN features of various neuropathies involving the lumbosacral plexus (LSP), nerves of the upper and lower extremities, pudendal nerve drawn from cases at our institution. Abnormalities can be because of compression, neural tumors, iatrogenic, irritation, and idiopathic problems. Change in signal intensity, continuity, and size can be detected with MRN.

OBJECTIVE: To evaluate the use of magnetic resonance (MR) neurography in identifying abnormalities of the peripheral nerves other than brachial plexus.

DESIGN: Case series from a retrospective medical record review.

RESULTS: Out of total MR neurography performed at Shifa international hospital total of 12 cases were performed for peripheral nerves other than brachial plexus. All case with abnormalities/pathologies distorting the nerve anatomy were excluded from study. Data was analyzed and presented in graphs/pie charts. When analyzed 7 cases were performed for sciatic nerve, 1 for pudendal nerve and 1 study assessed median, radial and ulnar nerved, 1 assessed lumbosacral plexus. Commonest abnormality seen was traumatic nerve avulsions/injury followed by enlarged nerves with irregular appearance due to tumors and inflammatory changes. 33 percent showed nerve avulsion, 25 percent nerve tumors and 25 percent inflammatory/infections. 2 most interesting cases were pudendal nerve neuralgia and other having infiltrative neuropathy of left upper limb nerves from patient's diasese of acute lymphocytic lymphoma. 17 percent were normal.

CONCLUSIONS: MRN is a valuable tool for the assessment of the variety of pathologic conditions involving peripheral nerves other than brachial plexus.

P-42
Rare Imaging Diagnosis of Joubert Syndrome in Pakistan

Zeeshan Ghias Khan, Khurram Khaliq Bhinder, Saman Nosheen, Humaira Bashir, Asma Malik Sadia Babar
Department of Radiology, Shifa International Hospital, Islamabad, Pakistan.
E-mail: kbhinder@yahoo.com

Joubert syndrome is a rare autosomal recessive disease with involves the brainstem and cerebellum. We report a case of a patient of 9 years of age who presented to our hospital with active complaints of unable to talk and communicate. He had delayed developmental milestones. Multiplanar, multi sequential pre-and postcontrast MR study of the brain was performed. There was cerebellar vermian hypoplasia. Bilateral superior cerebellar peduncles were thickened and elongated giving midbrain characteristic molar tooth appearance. The fourth ventricle had a bat wing configuration. The posterior fossa appeared enlarged. Corpus callosum was normal. The third and lateral ventricles were not dilated. Cerebellar hemispheres showed no signal abnormality. There was no abnormal enhancement within the brain parenchyma or meninges. Orbits and skull base soft tissues show no significant abnormality. Findings were suggestive of Joubert syndrome. The purpose of this report is to highlight rare disease with its classical MRI features.

P-43
Megalencephalic leukoencephalopathy with subcortical cyst (Van Der Knaap syndrome), Vanishing white matter

Muhammad Aman, Naila Nadeem, Faheemullah Khan, Abdullah Ameen
Department of Radiology, Aga Khan University Hospital (AKUH), Karachi, Pakistan.
E-mail: amanpanezai@gmail.com

Megalencephalic leukoencephalopathy with subcortical cysts (Van der Knaap disease) is a rare autosomal disorder. It is more prevalent in the ethnicities where consanguinity is common. Clinically it presents with delayed mile stones, seizures and increased front occipital circumference (FOC). Diagnosis is made on the basis of clinical history and MRI brain that includes leukodystrophy with subcortical cysts. Here we present a case of 1 year old male patient who is product of consanguineous marriage presenting with delayed mile stones, new onset seizures and increase FOC 55 cm (normal range 1 year 45-46 cm). MRI brain was performed findings were hypo-myelination in the cerebral white matter with sparing of optic radiations along with subcortical cysts in the frontotemporal regions with additional abnormal signals in the deep grey matter of the brain.

P-44

COVID-19 triggering longitudinally extensive transverse myelitis: A case report

Aqsa Mehmood, Kalsoom Nawab, Mehmood Akhtar Khattak, Rabia Haq
Department of Radiology, Khyber Teaching Hospital, Peshawar, Pakistan.
E-mail: dr.aqsamehmood12@gmail.com

Longitudinal extensive transverse myelitis (LETM) as manifestation in post COVID patient whereas transverse myelitis is condition caused by inflammation of spinal cord characterized by signs and symptoms of neurologic dysfunction in motor and sensory tracts on both sides of the spinal cord. However longitudinal extensive transverse myelitis is defined as transverse myelitis involving over three or more vertebral segments of spinal cord. Common causes are multiple sclerosis and viral, bacterial and fungal infections. Most of the patients have atleast partial recovery within first three months after the episodes and strongly depends on the cause of transverse myelitis. We report a case of a male of COVID-19 with manifestation of LETM in Radiology department Khyber Teaching Hospital Peshawar, Pakistan.

P-45

Complicated PRES as atypical presentation of celiac disease

Rehana Murad, Shayan Sirat, Sundas Basharat
Department of Radiology, Aga Khan University Hospital (AKUH), Karachi, Pakistan.
E-mail: rehana-gowani@hotmail.com

Complicated posterior reversible encephalopathy syndrome (PRES) as a typical presentation of celiac disease is a rare neuro-radiological entity not previously described. Any underlying condition causing intense activation of immune response whether secondary to primary autoimmune disease process or immunomodulators can lead to endothelial dysfunction predisposing to posterior reversible encephalopathy syndrome. We present a case of 9 years old boy who presented to ER with complaint of sudden onset of generalized seizure like activity and unconsciousness with low GCS. The patient was a recently diagnosed case of celiac disease. He underwent CT head followed MRI Brain examination in our department which revealed multiple intraparenchymal hemorrhages, multifocal micro-hemorrhages and subarachnoid hemorrhage with white matter hyper intensities predominantly involving parieto-occipital lobes consistent with complicated posterior reversible encephalopathy syndrome. The patient was subsequently managed conservatively and is showing symptomatic improvement.

P-46

MRI appearances of some rare CNS infections : A pictorial review

Sehrish Sharif, Rabia Shoukat, Ali Mansoor, Shahzad Karim Bhatti, Mahjabeen Masood
Department of Radiology, Mayo Hospital, Lahore, Pakistan.
E-mail: sehrish.sharif@yahoo.com

Recognition and characterization of central nervous system infections poses a formidable challenge to the clinician. Imaging plays a vital role as the lesions are typically inaccessible for tissue sampling and CSF analysis is not always diagnostic particularly for rare infections. The results of an accurate diagnosis are very rewarding, given the availability of excellent pharmacological regimen. MRI with its characteristic findings in various infections is a powerful tool in the hands of radiologists for the diagnosis of these pathologies. We intend to present an MRI pictorial of some of the very rare CNS infections in patients who underwent work up in our department including cerebral malaria, progressive multifocal leukoencephalopathy, Japenese viral encephalitis, cryptococcal meningitis and neurocysticercosis. This will make the readers familiar with typical appearances of these infections and help in clinching the diagnosis.

P-47

Rational use of computed tomography scan head in the emergency department of a high volume tertiary care public sector hospital

Tahira Nishtar, Nosheen Noor, Tabish Ahmad, Muhammad Fayaz
Department of Radiology, Lady Reading Hospital Medical Teaching Institute, Peshawar, Pakistan.
E-mail: tahira.bilal@yahoo.com

OBJECTIVE: To emphasize the rational use of computed tomography (CT) head in emergency department (ED) of a high volume tertiary care hospital.

MATERIAL AND METHODS: This retrospective observational study was conducted in Radiology Department of Medical Teaching Institute Lady Reading Hospital (MTI-LRH), Peshawar, Pakistan from 01.11.2017 to 31.01.2018. Patients of all ages and both genders presenting to the emergency department with post traumatic and non-traumatic indications for emergency CT scan were included in the study. The imaging was performed on 16 multi slice CT system. The imaging protocol included slice thickness of 3-5mm, non-contrast study for cases of trauma or stroke. Where needed intravenous contrast was administered. CT images were reported on PACS in morning and evening sessions. Information was analyzed using latest SPSS version and results were made.

RESULTS: Out of total 4284 CT scans performed in ED 90.8% were CT head (3893). Among 3893 CT brain scans done in ED, 2581 cases were reported normal (66.29%), while 1312 cases had positive findings (33.7%), including post traumatic and non-traumatic.

CONCLUSION: Misuse of CT scan is common especially in an emergency setting. Emergency physicians should be encouraged to obtain a detailed history and perform a thorough physical examination with reference to internationally standardized guidelines while requesting a CT scan.

P-48

Diversity of spinal TB finding on MRI; An institutional based study

Aymen Shahab, Maimoona Afsar, Mehreen Samad, Mahnoor Rehman
Department of Radiology, Hayatabad Medical Complex, Peshawar, Pakistan.
E-mail: draymenshahab@gmail.com

OBJECTIVES: The objectives of the current study were to review the spectrum of findings on MRI in patients with spinal tuberculosis and find out the frequency of findings prevalent in our hospital.

METHODS: This prospective descriptive study was conducted in department of Diagnostic Radiology, Hayatabad Medical Complex (HMC), Peshawar from the duration of January 2019 – December 2020. A total of 120 patients with tuberculosis were sampled for our study. Out of which 45 samples were confirmed to be a case of tuberculosis and were further evaluated in our study.

RESULTS: Out of 45 patients 26 (57%) were male and 19 (42.2%) were female. Out of all the cases 37 (82.2%) patients had spondylitis at multiple level, 22 (48.9%) patients developed spondylodiscitis at single level.2 (4.4%) patients developed spondylolisthesis. 13 (28.9%) patients developed compression collapse of single vertebrae and 8 (17.8%) developed compression collapse at multiple level with resultant gibbus deformity. 7 (15.6%) patients developed pre-vertebral soft tissue component, 2 (4.4%) developed para-vertebral soft tissue component, 25 (55.6%) developed both pre and para vertebral soft tissue component. 13 (28.9%) patients developed psoas muscle abscess. 27 (60%) patients showed extension of infective process into the spinal canal. 6 patients developed post tuberculosis sequelaewith 3 (6.7%) showed fusion of vertebra involved and 3 (6.7%) developed altered signals in the vertebral bodies after a previous insult of tuberculosis.

CONCLUSION: MRI is a costly but valuable investigation for TB spine. Spinal tuberculosis presented with a variety of abnormalities and characteristics. MRI provides extensive information about the soft tissue involvement and degree of cord and nerve root compression. Serial MRI similarly helps in monitoring response to treatment.

P-49
Metallic implant induced osteosarcoma: A rare entity

Farwa Mohsin, Kulsoom Fatima, Jehanzeb Shahid, Afshan Sheikh, Sami Alam
Department of Radiology, Aga Khan University Hospital (AKUH), Karachi, Pakistan.
E-mail: farwadoc@gmail.com

Osteosarcoma in association with metallic orthopedic prosthesis is an exceedingly rare but recognized complication. Although the implants are biologically inert, they may induce a range of tissue responses which may result in malignancy. We describe a case of 36-year-old male who presented to the Emergency Department with post traumatic left femoral mid-shaft fracture and underwent intramedullary nail placement. Fourteen months later he presented with left thigh swelling. His radiograph showed interval formation of new bone in typical sunburst pattern around the fracture site and subtle new bone along the proximal femoral shaft with triangular elevation of the periosteum. On magnetic resonance imaging (MRI), almost the entire femur showed abnormal signals with a large enhancing soft tissue component. Biopsy proved it to be osteosarcoma. He underwent neoadjuvant chemotherapy followed by total left femur and knee replacement. This possibility should be considered when pain or swelling develop in relation to metallic implant.

P-50
A rare entity of soft tissue lesions of elbow; clear cell sarcoma

Raima Kaleemi, Anum Khan
Department of Radiology, Aga Khan University Hospital (AKUH), Karachi, Pakistan.
E-mail: dr.raima12@gmail.com

INTRODUCTION: Soft tissue tumors of the elbow are rare, the incidence documented is around 3.8 %. Most of the soft tissue tumors around the elbow joint are benign in nature (10 times more common), however rate of malignancy is rare, but they do occur with unique clinical and histopathological characteristics. Management of such soft tissue tumors is very challenging. Careful reporting, histological diagnosis and treatment is necessary for a better clinical outcome. Missed or delayed diagnosis can lead to bad outcomes.

Our case report is a presentation of this unique malignant tumor which occur rarely in the elbow, its MRI findings and its close differentials with some literature search.

CASE REPOPRT: 30 year old female patient with no known co-morbid came with presenting complain of swelling over the left elbow since 2 years associated with mild pain.

On general physical examination, she was vitally stable oriented with time place and person. Her systemic examination was unremarkable. Her family history was negative for any malignancy.

The pre operative assessment of the patient revealed a mass at the left elbow, without any signs of the overlying skin inflammation. The patient was planned for MRI elbow with contrast.

On MRI examination there was evidence of abnormal signal intensity lesion involving the muscles of the medial aspect of the elbow joint adjacent to the ulnar olecranon process, involving flexor carpi ulnaris and flex digitorum superficialis. The lesion was infiltrating the subcutaneous fat. The lesion appeared hyperintense to muscle on T1 and hyper intense on T2/T2FATSAT images. It was showing heterogeneous post contrast enhancement. Lesion was seen involving the subcutaneous fat with small interface between skin and tumor. The ulnar nerve was also seen to be involved by the tumor. The tumor was closely abutting the ulnar olecranon process however; no abnormal signals were identified in the bones.

Patient underwent successful excision of the tumor with nerve grafting. The histopathology report revealed soft tissue sarcoma of clear cell variety.

P-51
Solitary vertebral metastasis detected on SPECT-CT in patient of renal cell carcinoma

Tooba Mujahid, Muhammad Numair Younis, Sadia Adnan, Abubaker Shahid
Department of Radiology, INMOL Cancer Hospital, Lahore, Pakistan.
E-mail: toobamujahid.TM94@gmail.com

BACKGROUND: Whole body bone scan is recommended for the detection of bone metastasis but it cannot detect small osseous metastasis unless they exhibit high uptake. Recently SPECT-CT has gained popularity due to its quality of precise localization and characterization of functional findings. Use of SPECT-CT is rising readily in new clinical settings and NM centers however its local practice is still limited. We report a case of solitary bone metastasis detected on SPECT-CT in patient with Renal cell carcinoma.

In our case, it was observed that WBBS showed bilaterally normal and symmetrical uptake throughout the imaged skeleton ,however a mild abnormal focus of degenerative nature was observed at the level of L1 vertebra. SPECT-CT was done to rule out the possibility of metastasis.

METHODOLOGY: The study was performed after injecting a dose of 20mci of 99mTc MDP(740Mbq) and delayed bone scan images were obtained after 2.5 hours and then SPECT-CT was done for further evaluation. SPECT-CT machine used was "Discovery NM/CT 670 pro (GE)". The time for acquisition was 15 to 20 min. Gantry was rotated around the patient along with 15 sec acquisition at each angle ,total of 60 frames obtained.

CONCLUSION: Since in renal cell carcinoma, osteolytic metastasis are observed so sensitivity of bone scan is limited. Our case reflects that the SPECT-CT has greater significance in patients with high pre- test probability of bone metastasis on clinical grounds.

P-52
Maffucci syndrome, a case report and review of radiological signs

Muhammad Tahir Khan, Sadaf Arooj
Department of Radiology, Punjab Institute of Neurosciences, Lahore, Pakistan.
E-mail: tahirpmcite@gmail.com

Maffucci syndrome is a congenital non-hereditary disorder which affects the skin and skeletal system. It is characterized by benign enlargement of cartilages (enchondromas), bone deformities and venous malformations (hemangiomas). Enchondromas develop from the mesodermal dysplasia with potential for malignant transformations. They usually are found on phalanges and long bones. Venous malformations often protrudeas soft nodules or tumors usually on distal extremities.

We present a case of 19 years old boy complaining of swellings on fingers of both hands and left foot since the age of 5 years with few bluish soft tissue swellings on left heel. His xrays show multiple expansile lyticlesions and soft tissue swellings with phleboliths. The histopathology report of soft tissue and bony swellings confirms the diagnosis of haemangioma and enchondroma respectively. Ultrasound of soft tissue swellings show hyperechoicareas adjacent tomedial malleolus, hasmildmarginal blood flow on Doppler representing haemangiomas.

We are presenting this case with aim to review pictorial radiological signs of maffucci syndrome on Xray and ultrasound.

P-53
Case Report on Takayasu's Arteritis

Munaza Kainat Shuja
Department of Radiology, Hayatabad Medical Complex, Peshawar, Pakistan.
E-mail: kainatshuja.ks@gmail.com

Takayasu's Arteritis is a rare large vessel vasculitis that effects large arteries, mainly the aorta and its branches.It is also called pulseless disease because of diminished or absent pulses in the upper extremities of the patient. The coronary, pulmonary and renal arteries are also effected in the progression of the disease. The prevalence of the disease is more in asian countries. It has unknown etiopathogenesis but autoimmunity has been suggested to play a role. Here we discuss a case of Takayasu's Arteritis in 17 years old Asian girl who was admitted with hypertension, diminished left radial pulse, upper back pain and poly arthralgia.

The diagnosis was carried out from the results of CT Aortogram with non ionic contrast and 3D reconstruction done for aorta by maximum intensity projection which showed long segment narrowing of the proximal left subclavian artery distal to the origin of vertebral artery with 7.7mm aneurysm in it and circumferential mural thickening of aortic arch and descending aorta throughout its length with multiple specks of calcification also alternate areas of luminal narrowing and dilatation are seen at places giving beaded appearance. Left renal artery proximal portion is completely stenosed involving1.2cm of its segment. Treatment was initiated with methylprednisolone and cyclophosphamide along with antihypertensives and other symptomatic treatment. But the disease progressed with the development of complications like peripheral leg ulcers. The patient was initiated palliative care in view of altered sensorium and severe LV dysfunction, Early identification and initiation of aggressive treatment can help in symptom free trial.

P-54
Post tracheostomy tracheal web: Accuracy of CT virtual bronchoscopy in identification and localization of tracheal web correlated with findings of Fibreoptic laryngoscopy: A case report

Sana Iqbal, **Ayesha Amjad**, Shandana Khan, Inayat Shah Roghani, Sidra Atta Ullah, Farah Wahid
Department of Radiology, Northwest General Hospital and Research Centre, Peshawar, Pakistan.
E-mail: ash.amjad@gmail.com

Tracheal webs are among the rarest complications of tracheostomy. It causes exertional dyspnea, cough, recurrent chest infections, refractory asthma and even respiratory failure.

We present the case of a 32-year-old Asian male who underwent tracheostomy for respiratory failure secondary to maxillofacial injuries during road traffic accident two years back. He had a tracheostomy in place for a month. 15 months after removal of tracheostomy, he developed exertional dyspnea and difficulty in sputum expectoration. CT scan of neck and chest with inspiratory and expiratory views and CT virtual bronchoscopy showed tracheal web and sessile polyp with no change in diameter of trachea with breathing. Fibreoptic laryngoscopy confirmed the findings of CT virtual bronchoscopy. Tracheal web laser surgery was performed.

This case report describes a rarely occurring condition of acquired tracheal web. As findings of FOL and CT virtual bronchoscopy were similar, virtual bronchoscopy can be used to diagnose tracheal webs.

P-55
Diagnosis and management of aortic dissection, a review

Faryal Riaz, Amna Malik
Department of Radiology, Punjab Insitute of Cardiology, Lahore, Pakistan.
E-mail: faryalriaz724@yahoo.com

Aortic dissection is a potentially life-threatening medical condition that occurs when the inner layer (intima) tears, causing it to separate from the middle layer (media). Blood then flows between the layers, creating a channel called a dissection.

Diagnostic tools include computed tomography, ultrasonography and magnetic resonance imaging. Type A dissection is managed surgically. Non complicated Type B dissection is managed conservatively. Complicated Type B dissection occur due to rupture and severe organ malperfusion, its surgical approach carries intra and post operative complications. Thoracic endovascular aortic repair (TEVAR) has become an alternative technique to treat complicated type B aortic dissection . The main goal of TEVAR is closure of the primary entry tear in the descending aorta.

In this review article we will discuss risk factors, types and various modalities for diagnosing aortic dissection, treatment options available with special emphasis on TEVAR procedure.

P-56
Sinister pathologies of right ventricular lesions; A case series

Fouzia Rahman, Rehmat Ghaffar, Aymen Shahab
Department of Radiology, Hayatabad Medical Complex, Peshawar, Pakistan.
E-mail: fouziarahman193@gmail.com

BACKGROUND: Primary cardiac neoplasms are rare, with an estimate prevalence of 0.001 to 0.3% in studies being performed during necropsy. Metastatic disease being 20 to 30 times more common than primary malignancy. Primary modality for evaluation of cardiac masses is echocardiography but now a days MRI is gaining a lot of popularity in characterization.

OBJECTIVES: The objectives of our case series was to review the rare chamber of intra-cardiac mass i.e. right ventricle presented to MRI department for further evaluation as per suspicion on ECHO examination and how accurate CMR evaluation was for the diagnosis of intra-cardiac lesions

METHODOLOGY: Out of a total of 7 patients presented to MRI department of HMC for CMR evaluation of right ventricular masses from time span of 2019-2021, we reviewed 5 cases as one of them turned out to be clot and one is awaiting cardiac surgery.

RESULTS: Majority of the patients were young with the average age being 31 years. Most of the patients came with vague complains of chest pain, one of them had history of metastatic disease process. Lesions were minimally enhancing filling defects in right ventricle with predominant location being body, outflow tract, mid portion, intraventricular septal wall and inflow tract with the histopathological diagnosis being metastatic deposit, myxoma, fibroma, rabdomyosarcoma, hydatid cyst respectively. 2 of them had additional associated findings which helped in the final diagnosis rest appeared only as mass lesions confirmed sinister pathology on biopsy.

CONCLUSION: MRI evaluation played a major role in pre-operative evaluation with differentials provided were close to histopathological diagnosis depending on the intra-cardiac location of lesions and associated findings scan.

P-57

Superior mesenteric artery and superior mesenteric vein thrombosis as a complication of Covid-19 pneumonia: A case report

Saira Ilyas, Muhammad Salam Rafique, Tahir, Sana Kundi, Ahmed Zia ud Din
Department of Radiology, Pakistan Kidney and Liver Institute & Research Center, Lahore, Pakistan.
E-mail: drsairailyas@gmail.com

COVID-19 pneumonia has a wide spectrum of complications, apart from the usual symptoms of fever, dyspnea, and cough. Hypercoagulability is one of the many complications with unknown etiology. Though deep venous thrombosis, pulmonary embolism and superior mesenteric artery thrombosis have been reported previously, combined superior mesenteric artery and superior mesenteric vein thrombosis in a patient with COVID-19 pneumonia is infrequent.

We present a case of a COVID-19 positive, 51-years male who later developed abdominal pain. D-dimers, CRP and serum ferritin levels were raised. CT angiogram showed extensive thrombosis of superior mesenteric artery, superior mesenteric vein, and anterior sectoral branch of right portal vein. The small bowel was diffusely dilated beyond duodenojejunal flexure with non-enhancing walls and pneumatosis intestinalis. Ascending and transverse colon were ahaustral and dilated too.

P-58

Silent PDA with vegetation and peripheral right upper limb and cerebral thromboembolism

Salma Rehmat, Kalsoom Nawab, Hina Gul, Mehmood Akhtar, Humaira Anjum
Department of Radiology, Khyber Teaching Hospital, Peshawar, Pakistan.
E-mail: chocolate_mousse1992@yahoo.com

Infective endocarditis used to be the most common cause of death in patients with Patent Ductus Arteriosus before the dramatic decrease in cases with the invention of antibiotic therapy and surgical closure of the defect. When the PDA is silent on cardiac auscultation, infective endocarditis is especially unusual; however PDA is still considered a predisposing factor for infective endocarditis. Chest X-ray in these cases mostly shows cardiomegaly with dilated pulmonary artery, but Transthoracic echocardiography better depicts the defect between the descending thoracic aorta and main pulmonary artery with the vegetation attached to the wall of main pulmonary artery. We report the case of silent PDA in an adult female with vegetation and peripheral right upper limb and cerebral thromboembolism.

P-59

A rare pulmonary tumour - inflammatory pulmonary myofibroblastoma

Sana Aslam, Hina Hanif Mughal, Hina Hafeez, Fizza Batool, Asma Zafar, Ayesha Amin
Department of Radiology, Benazir Bhutto Hospital, Rawalpindi, Pakistan.
E-mail: sanaaslam890@gmail.com

The inflammatory myofibroblastic tumor is also known as inflammatory pseudotumor is a rare benign lesion, though becomes invasive and recur after excision. It accounts for 0.7% of lung tumors. We reporta case of a young female 18 yrs of age who presented in our hospital with complaints of cough, chest pain, shortness of breath, intermittent fever, and undocumented weight loss for 1 year. She had a previous history of lung infection. Chest auscultation revealed reduced air entry on the right side. Laboratory tests showed an increased erythrocyte sedimentation rate of 130. A chest radiograph was done which showed homogenous opacity invading the right hemithorax. Contrast tomography of the thorax was performed which reported a large heterogeneously enhancing tumor of 13 x 10 x 12 cm with central necrosis occupying the right hemithorax practically collapsing the right hemithorax partially with left hemithorax without any alterations. No internal calcification was appreciated. It was causing compression on the trachea and esophagus and complete obliteration of the right main bronchus. The tumor showed distinct fat planes with surrounding structures. Mild right-sided pleural effusion was seen. CT-guided biopsy was done. Microscopic examination revealed linear cores of a tumor comprising proliferating spindle cells and scattered epithelioid cells with eosinophilic nucleoli admixed with abundant lymphocytes and plasma cells. Immunohistochemical analysis showed positive staining for ALK-1, smooth muscle actin(SMA), desmin, and pan -CK. In contrast tumor, cells were non-reactive to S-100. Based on this data, a diagnosis of inflammatory myofibroblastoma was retained. The purpose of this report was to highlight the rare disease with its CT features. Despite being a benign lesion its potential for local invasion and recurrence requires surgical resection.

P-60

Primary lung adenocarcinoma metastasis to pancreas mimicking as primary pancreatic carcinoma

Zeeshan Ghias Khan, Khurram Khaliq Bhinder, Saman Nosheen, Humaira Bashir, Asma
Department of Radiology, Shifa International Hospital, Islamabad, Pakistan.
E-mail: shanighias@gmail.com

Cancer metastasizing to the pancreas is seldom seen. Accurate diagnosis should be made before starting medication as treatment options differ if it's metastatic or primary. We report a case of a young adult who came to our hospital with the active complaint of abdominal pain for the last one month associated with weight loss, anorexia, and generalized weakness. USG abdomen was performed which showed a mass in the pancreatic head. CT pancreas dynamic reported an ill-defined hypodense mass at the junction of body and tail of pancreas causing abrupt narrowing and mild proximal dilatation of pancreatic duct, narrowing of the portal vein near the confluence of the splenic vein and superior mesenteric vein, closely abutting the gastroduodenal artery and splenic artery. Necrotic peripancreatic, gastrohepatic, and para-aortic lymph nodes were seen. Metastatic nodule in the right retroperitoneum near the psoas muscle in the right iliac fossa and right adrenal was noted. Large ill-defined heterogeneously enhancing mass in the left lung upper lobe closely abutting the aortic arch encasing the left upper lobe bronchus was seen. Findings were suggestive of pancreatic adenocarcinoma with lung metastasis. Vice versa, rarely primary small cell lung cancer may metastasize to the pancreas. Further workup with tissue sampling was suggested. The interventional radiology team performed CT guided biopsy of the left lung upper lobe mass. 20G biopsy needle was introduced coaxially and 3 cores of tissue obtained were obtained and sent for histopathology which reported it to be primary adenocarcinoma of lung origin. On immunohistochemistry, it was CK7+, TTF1+, Napsin+, CK19+, and CK20+. Immunohistochemistry and histological findings of endoscopic biopsy of peripancreatic lymph node were consistent with metastatic adenocarcinoma of lung origin. Thus, radiological modalities contribute not only to a definitive diagnosis, but also aid in lessening morbidity and mortality.

P-61

Correlation of modified computerized tomography (CT) severity score for COVID-19 pneumonia with clinical outcomes

Jehanzeb Shahid, Kiran Hilal, Abdullah Ameen, Ainan Arshad, Russel Seth Martins, Avinash Nankhani
Department of Radiology, Aga Khan University Hospital (AKUH), Karachi, Pakistan.
E-mail: jehanzeb.shahid@aku.edu

BACKGROUND AND OBJECTIVE: Various CT severity scores have already been described in literature since the start of this pandemic. One

pertinent issue with all of previously described scores is their relative challenging calculation and variance in inter-observer agreement. The severity score proposed in our study is relatively simple, easier to calculate and apart from a trained radiologist, can easily be calculated even by physicians with good inter-observer agreement. The objective of this study is to develop a simple CT severity score (CT-SS) with good inter-observer agreement and assess its correlation with clinical outcome.

METHODS AND MATERIALS: This retrospective study was conducted at Aga Khan University Hospital, from April 2020 to August 2020. Non-probability consecutive sampling was used to include all patients who were positive for COVID-19 on PCR, and underwent CT chest examination. Proposed CT-SSSeverity of disease was calculated in each lobe as follows: For each lobe the percentage of involvement by disease was scored - 0% involvement=0, <50%=1 and >50% = 2. Maximum score for one lobe =2, and hence total maximum overall score = 10. CT scan images were reviewed independently by two radiologists. CT-SS on 0-10 were categorized as Low (0-7) and High (8-10), by both radiologists independently. CT-SS was independently calculated by a COVID intensivist with about six months of experience in COVID ICU, who was blinded with CT-SS calculated by radiologists. Inter-observer reliability between radiologist and COVID intensivist for 10 point CT-SS rated on 0-10 was assessed using the Kappa statistic.

RESULTS: A total of 73 patients were included, the majority male (58.9%) with mean age 55.8 ± 13.93 years. The CT-SS rated on 0-10 showed substantial inter-observer reliability between radiologist and COVID intensivist with Kappa statistic of 0.78. Patients with a High CT-SS were more likely to present with shortness of breath (71.8% vs. 32.4%; p = 0.004), cough (56.4% vs. 23.5%; p = 0.001) and fever (59% vs. 32.4%; p = 0.023). Moreover, patients in the 8-10 category had a higher mean C-reactive protein (109.14 ± 86.89 vs. 62.80 ± 67.59; p = 0.022) and lactate dehydrogenase (515.27 ± 238.53 vs. 380.50 ± 149.09; p = 0.036), than patients in the 0-7 category. Patients with CT-SS 8-10 had a significantly higher ICU admission & intubation rate (53.8% vs. 23.5%) and mortality rate (35.9% vs. 11.8%; p = 0.017), as compared to those with CT-SS 0-7.

CONCLUSIONS: Our described CT-SS is a quick, effective and easily reproducible tool for prediction of adverse clinical outcome in patients with COVID 19 pneumonia and shows good inter-observer agreement.

CLINICAL RELEVANCE/APPLICATION: A rapid and easy to calculate CT severity score calculation can give a clue to physicians about possible clinical outcomes without being dependent on radiologists who may not be readily available, especially in third world countries.

P-62
Heart beat at the right seat - A pictorial review of cardiac devices on chest radiograph

Raana Kanwal, Madiha Saeed Wahla, Maria Rauf
Department of Radiology, Shifa International Hospital, Islamabad, Pakistan.
E-mail: raanakanwal@hotmail.com

OBJECTIVE: Recognizing common and uncommon cardiac devices on plain chest radiograph. Knowledge of expected location, malposition and associated complications on plain chest radiograph.

BACKGROUND: At least 1 million patients in Pakistan have permanent CCDs, which comprise pacemakers and implantable cardioverter-defibrillators. Like many other centers in Pakistan, at our institution major center for cardiology is serving cardiac patients.

MATERIAL/METHOD: Cardiac pacemakers and implantable defibrillators, the leads can be placed as either intra-cardiac (more commonly) or subcutaneous. Some novel devices come without any leads. According to the number of leads they can be divided into:

Single chamber (Lead in right ventricle)
Dual chamber (Lead in right atrial appendage and right ventricle)
Biventricular (one lead in each ventricle and once in right atrium
Chest radiography is unique because it is the only imaging modality that allows evaluation of the physical integrity of CCD leads. As a result, a basic knowledge of the normal and abnormal radiographic appearances of these devices and their various components is important. Radiologists should have a working knowledge of CCD anatomy as well as appropriate positioning and appearance of CCD leads and generators. For this purpose we present a few cases in this regard, where we're cover normal anatomy along with complications of CCD. Acute complications of CCD impltantation include pneumothorax, perforation of the heart muscle or a vein, heart valve damage, lead damage, inadequate seating of the terminal connector pin and presence of an air pocket. Chronic complications include twiddler syndrome, lead fracture, damage to the lead insulation, and lead displacement.

CONCLUSION: Radiologists play an important role in management of patients with CCDs by providing vital information about the device, starting immediately after implantation and continuing throughout its duration in the patient. To fulfill this role, radiologists must have a firm understanding of CCDs and their evolving technology.

P-63
X-ray patterns of COVID -19 in patients presenting to Lady Reading Hospital, Peshawar, Pakistan

Tahira Nishtar, Nosheen Noor, Shandana Latif Khan
Department of Radiology, Lady Reading Hospital-Medical Teaching Institute, Peshawar, Pakistan.
E-mail: tahira.bilal@hotmail.com

OBJECTIVES: To determine the pattern of COVID-19 on chest radiograph in the patients presenting to Lady Reading Hospital, Peshawar, Pakistan.

METHODS: This prospective observational study was conducted on 178 consecutive swab positive C0VID-19 patients presenting to Lady Reading Hospital, Peshawar, Pakistan, from 15th March to 15th June 2020. Patients of all ages and both genders were included. Chest X-rays performed by portable X-ray unit were viewed for different patterns by two consultant radiologists independently and results were analyzed using IBM SPSS 20.

RESULTS: Out of 178 patients 134 were male. Mean age was 55.67 years. Radiographic patterns observed were predominant ground glass haze without or with reticulation and/or consolidation (45.5 % and 33.2% respectively) and predominant consolidation either alone or in combination with ground glass haze or other findings (27.1% collectively). Peripheral distribution pattern was seen in 69.1% of patients with bilateral findings in 84.3%. Further categorization was based on pulmonary zonal demarcation with changes most commonly involving four zones (33.1%) i.e., the lower and mid zones bilaterally.

CONCLUSION: Portable chest radiography is an essential supporting tool for assessing different patterns in C0VID-19 infection. The most common pattern observed is alveolar opacities with predominant peripheral distribution either unilateral or more frequently bilateral, starting from the lower and mid zones extending to the upper zones and becoming diffuse with disease progression.

P-64

Partial anomalous pulmonary venous return and a trial septal defect in an adult patient detected with 128-slice multidetector computed tomography - A case presentation

Ummarah Kamran, Misbah Durrani, Shabana, Ayesha, Sehrish, Abdul Ahad
Department of Radiology, Rawalpindi Institute of Cardiology, Rawalpindi, Pakistan.
E-mail: ummarahkamran@gmail.com

The present case describes a 34 years old male, who presented with shortness of breath at emergency of Rawalpindi Institute of Cardiology. An initial working diagnosis of pulmonary embolism was made. CTPA excluded pulmonary embolism. However, further evaluation with ECG-gated 128-slice multidetector computed tomography (MDCT) i.e. CT Cardiac angiography (CTCA), showed left-to-right shunt including partial anomalous pulmonary venous return (PAPVR), an atrial septal defect (ASD), persistent left superior vena cava (SVC) and pulmonary arterial hypertension (PAH). PAPVR is defined as a left-to-right shunt where one or more, but not all, pulmonary veins drain into a systemic vein or the right atrium. PAPVR involving the right upper pulmonary vein can be associated with a sinus venosus ASD. The presence, course, number of anomalous veins and associated cardiovascular defects can be reliably observed by 128-slice MDCT angiography.

P-65

Congenital pericardial defect

Umme Habiba Malik
Department of Radiology, Pakistan Institute of Medical Sciences, Pakistan.
E-mail: ummedoc@gmail.com

A 65 years old male presented to ER of PIMS hospital with atypical chest pain. His cardiac evaluation showed normal cardiac enzymes and ECG. General physical examination was unremarkable. Chest x ray was performed which showed levo displacement of the heart, raised left hemi diaphragm with trachea central in position. Patient underwent CECT chest. Its detailed evaluation revealed excessive levo position of heart with left ventricular apex pointing posteriorly. The AP window which is normally covered by pericardium and contains some fat was noted to have interposition of lung tissue between aorta and main pulmonary artery is noted a characteristic finding in congenital pericardial defect. Congenital pericardial defect is an extremely rare anomaly with an estimated frequency of 0.01-0.04%. It occurs due to atrophy of cardinal veins during embryogenesis which supply the pleuropericardial folds. It has male: female ratio of 3:1. It has an association with ASD, PDA, mitral valve stenosis, Tetralogy of Fallot. Patients having partial defect of pericardium have a tendency for herniation and entrapment of cardiac chamber , infarction of atrial appendage and compression of left coronary artery , in which case surgical closure or enlargement of defect may sometimes be necessary if one of such complication occurs. Our patient remained asymptomatic there after and was discharged.

P-66

Endovascular management of complex intra-cranial aneurysms - Case Series

Kamran Fazal, Tanveer ul Haq, Muhammad Azeemudin, Raza Syani, Junaid Iqbal, Muhamamd Asif Bilal
Department of Radiology, Aga Khan University Hospital (AKUH), Karachi, Pakistan.
E-mail: kamran.siddiqui@aku.edu

COMPLEX ANEURYSM
DEFINITION: Difficult to treat either by endovascular or surgical techniques.
TYPES: According to, Site, Size and morphology.

Type according to Site:
Distal
Branch Origin
Small vessel
Types according to size
`Small / blister
`Large / Giant
Types according to Morphology
`Wide necked + Multi-lobed, fusiform, Dissecting
Grading (Spetzler-Martin arteriovenous malformation {AVM})
The grade (denoted in Roman numerals) is equal to the sum of points in 3 categories, for a minimum of grade I and maximum of grade V (with a special designation of grade VI explained below) 1:
Size of nidus
small (<3 cm) = 1
medium (3–6 cm) = 2
large (>6 cm) = 3
Eloquence of adjacent brain (sensory, motor, language, visual cortex, hypothalamus, thalamus, internal capsule, brainstem, cerebellar peduncles (superior, middle, or inferior), deep cerebellar nuclei
-eloquent = 0
eloquent = 1
Venous drainage
superficial veins only = 0
deep veins = 1
Endovascular treatment options;
Remodeling / Assisted Coiling
Balloon
Stents (single, Y, Waffle cone)
Hemodynamic alterations
Parent Vessel occlusion
Flow diverter
New tools
WEB (woven endobridge device)
Pulse rider

P-67

Ultrasonography guided interventional procedures: An experience at AECH-NORI

Zainab Zahur, Humera Mahmood, Ashfa Ammer Khan, Shaista Khurshid, Mariam Malik
Department of Radiology, Atomic Energy Cancer Hospital, Islamabad, Pakistan.
E-mail: dr.zainabzahur@gmail.com

The influx of patients diagnosed with malignancies is continuously on the rise and so are the patients coming to breast care and filter clinics for consultations of lump related to specific site of body. Biopsy and histopathology are the corner stone of any cancer management as treatment decision depends upon the typing and immunohistochemistry and it further tells us about the prognosis and behavior of tumor to antineoplastic drugs. We at AECH-NORI are witnessing diverse variation in tumor presentation and response to treatment. We started ultrasound guided procedures initially limiting to guided FNACs and biopsies, the number of daily procedures is increasing steadily, which despite the current pandemic situation continue to rise. Further ultrasound guided biopsies of liver masses, equivocal cases on triphasic CT scans, pelvic and adnexal masses and cervical nodes have also been performed. Intralesional clip placements have also been performed for lesions where breast conservation can be performed. Ethanol ablation of thyroid nodules have also been performed with significant reduction in size of nodules making definitive surgeries easier and less morbid. Ultrasound correlation with elastography and mammography have made radiological diagnosis quite near to actual pathology reducing number of false negatives. Further more breast MRI can also be performed in equivocal cases. The yield of ultrasound guided procedures is quite high owing to an onsite histopathologist making repeat visit of patient highly unlikely. We present the data of Radiology department of NORI hospital with particular stress on interventional procedures.

P-68

Artificial intelligence, a supportive tool for COVID-19 chest X- ray diagnosis in a busy tertiary care hospital

Shanza Khan, Amna Naveed, Sumera Mushtaq, Kiran Fatima Farooq
Department of Radiology, Fauji Foundation Hospital, Rawalpindi, Pakistan.
E-mail: shanza1993@gmail.com

OBJECTIVE: Coronavirus disease (COVID-19), caused by a novel member of corona virus family, is a respiratory disease that rapidly became pandemic with high morbidity and mortality. It has presented numerous challenges to all aspects of healthcare. Initial efforts to contain the spread of virus were hampered by the time required to develop reliable diagnostics methods. Artificial intelligence is a rapidly growing field of computer science, with its many applications in health care. We assessed the role of artificial intelligence applied to chest X-rays in supporting the diagnosis of COVID-19 pneumonia in Fauji Foundation Hospital Rawalpindi.

METHODS: We conducted a retrospective study and utilized CXR images of patients of Fauji Foundation Hospital Rawalpindi with COVID-19 pneumonia, CAP (community acquired pneumonia) and normal chest x-rays as a data set for the program installed in Radiology department of Fauji Foundation hospital Rawalpindi.A total of 300 x rays were included in this study. Out of which 140 were suspected and 160 non suspected (which includes normal chest x-rays and CAP).

RESULTS: The results obtained were promising, with a good sensitivity and specificity value of this program in detecting this novel COVID-19 pneumonia that was at par to x rays reported by our worthy radiologists.. The sensitivity and specificity by artificial intelligence were (0.82) and (0.85) for suspected patients versus non suspected (which includes normal chest X- rays and CAP) patients. The sensitivity and specificity by radiologist reported x-rays were (0.9) and (0.88) for suspected patients versus non suspected patients.

CONCLUSION: This program appears as a useful tool for the diagnosis of COVID-19 in a busy tertiary care hospital. With the help of artificial intelligence workload of COVID-19 detection on chest x rays can be reduced and it can act as an aid for radiologists to diagnose COVID-19 pneumonia on chest x-rays. The findings have implications for screening, initial diagnosis and monitoring the disease progression that isneed of the hour in current pandemic.

P-69

Detection of solitary spinal lesions on SPECT/CT in oncology patients

Asamiya Suhail Khan, Muhammad Numair Younis, Sadaf Abdul Qadir, Rakhshee Suhail, Abubaker Shahid
Department of Radiology, Shalamar Hospital, Lahore, Pakistan.
E-mail: asamiyakhan4@gmail.com

OBJECTIVE: The aim of this study was to determine the role of SPECT/CT in detection of solitary spinal lesions in the diagnosed cancer patients who presented with backache, osseous changes on the radiological findings (CT/MRI) and had an abnormal uptake on planar bone scan.

METHODS: The cross-sectional study of six months was performed on 78 patients who visited the Nuclear Medicine Department of INMOL Cancer Hospital, Lahore. The data was collected from 1st January-31st March, 2021. SPECT/CT was performed on the patients with no history of trauma and an abnormal uptake on planar bone scan. The uncooperative patients, pregnant ladies and patients with previous spinal surgery were excluded from the study. The results were evaluated by applying Kappa interrater reliability test to determine the consistency between planar bone scan and SPECT/CT. Similarly, the radiological findings were also evaluated with SPECT/CT findings by determining the frequencies of confirmed patients on both modalities.

RESULTS: Out of 78 patients the abnormal uptake on planar bone scan was found in 59 (75.6%) patients whereas SPECT/CT was able to identify osseous metastases in 65 (83.3%) patients. And the Kappa interrater test showed a negative association. Whereas, out of 78 patients 37 (47.4%) patientswere identified with lesions onCT/MRIand SPECT/CTwasabletodetect lesions in 65 (83.3%) patients.

CONCLUSION: SPECT/CT was able to identify the osseous metastases very frequently in the patients who were first investigated by either CT/MRI or planar bone scan. Hence, SPECT/CT was considered as reliable investigation for the diagnosis of solitary spinal lesions.

P-70

Let's become totally RAD being in RADIOLOGY: A pictorial review on BI-RADS, PI-RADS, TI-RADS, LI-RADS, O-RADS, and CO-RADS

Mariam Shah, Belqees Yawar Faiz, Rabi Anwar, Zenab Farooq, Ahmed Moqeet, Mina'a Shahid
Department of Radiology, Shifa International Hospital, Islamabad, Pakistan.
E-mail: maryamshah477@yahoo.com

OBJECTIVE: RADS scores play an important role in differentiating aggressive from non-aggressive or early disease. Objective is to familiarize reviewers with differences between benign and malignant processes to assist in management plan.

METHODS AND RESULTS: This pictorial review will show data of 10 cases for each RADS including PI-RADS, BI-RADS, TI-RADS, CO-RADS, LI-RADS, AND O-RADS. We will select best images for each score and pictorial review will be displayed in most interesting yet academic way for education of residents and radiologists. This may motivate many to start reviewing disease process keeping these features in mind with professional standardized advice for the patients and referring physicians for further follow up or intervention.

CONCLUSION: RADS score is an assisting tool. This brings clinical radiologists and clinical team on one page with use of one language and must be in regular use.

P-71

Transvisceral migration of retained surgical gauze

Muhammad Sehran Khalid, Mahjabeen Masood, Robina Batool, Ali Mansoor
Department of Radiology, Mayo Hospital, Lahore, Pakistan.
E-mail: sehrankhalid@gmail.com

The objective of this case report is to highlight an unusual yet interesting case of retained surgical gauze that had been transviscerally migrated to the distal ilium. Its knowledge is necessary to make a diagnosis of patient being complicated after the transvisceral migration of retained surgical gauze. Retained surgical gauze is a pretty common condition post surgically however its transvisceral migration or engulfment in ileum is extremely rare and tricky to diagnose as it is present intraluminally and not in the peritoneum. These patients can present with signs & symptoms of intenstinal obstruction, perforation or intestinal inflammation. We herein report a case of a middle age female who suffered from the migration of retained surgical gauze in distal ileum 6 months post c-section developing signs and symptoms of intestinal obstruction and later on operated to extract the migrated gauze from the terminal ileum. So whenever a post op patient comes with these signs and symptoms this rare complication of retained surgical gauze has to be kept in consideration for diagnosing and managing such patients.

P-72
Imaging of emphsematous infections in the body

Sana Aniq, H. Aniq, J. Choudhary, H. Rafique, T. Hussain, S. U. Khan
Department of Radiology, Hull University Teaching Hospitals NHS Trust, UK
E-mail: sana.aniq1@NHS.net

Emphysematous infections are caused by gas-producing bacteria within internal organs. While rare, they have the potential to become fatal, especially among those with significant risk factors such as diabetes and immunosuppression and need urgent treatment. These infections can involve any organs of the body, common sites being the gall bladder, stomach, urinary system, pancreas but can go as far as bones and joints.

Cross sectional radiological imaging is the best method not only for early and accurate diagnosis but as a reliable modality for localising the infection and measuring its extent. This allows for early and appropriate intervention, reducing morbity, mortality and improving clinical outcomes for patients. This educational exhibit aims to highlight how emphysematous infections present themselves in different organs systems, their features on various imaging modalities and how to differentiate other benign causes of gas in the body tissues.

P-73
Pictorial review of imaging findings of Von Hippel Lindau disease (VHL)

Zenab Farooq, Khurram Khaliq Bhinder, Maryam Shah, Sabiyal Saghir, Maira Aslam, Madiha Saeed Wahla
Department of Radiology, Shifa International Hospital, Islamabad, Pakistan.
E-mail: zenabfarooq012@gmail.com

OBJECTIVE: The objective of this article is to present imaging findings in von Hippel-Lindau disease, which will eventually help in imaging based diagnosis.

STUDY DESIGN: Retrospective study

PLACE AND DURATION OF STUDY: Radiology Department, Shifa International Hospital, from 2015 to 2021.

METHODOLOGY: Total of 5 patients were selected from the radiology database retrospectively from 2015 to 2021. These patients were diagnosed with VHL by radiology department and their scans were performed and reviewed at USG, CT and MRI machines of Shifa International Hospital. USG scans were performed on Xario 100 and Xario 200. CT scans were performed on Toshiba 640 slices and Siemens 128 slices, and MRI scans were performed on Siemens 3 tesla and Toshiba-titan 1.5 tesla.

RESULT: Involvement of different organ systems by this disease and their imaging features on various radiological modalities are reported. Hemangioblastoma, drop mets in dorsal and cervical spine, renal cysts, renal carcinomas, pancreatic cysts and pancreatic mass are commonly seen in this disease spectrum.

CONCLUSION: VHL has diverse range of imaging findings on various radiological modalities. Thus, identification of various organ manifestations on imaging is important for making the timely diagnosis.

P-74
Optimal use of radiology reporting workstation, a clinical audit

Heba Ahmad, Muntiha Ibtihaj, Nuwayrah Jawaid, Kiran Fatima Farooq
Department of Radiology, Fauji Foundation Hospital, Rawalpindi, Pakistan.
E-mail: heba8354@gmail.com

BACKGROUND: Radiology reporting has progressively become filmless and paperless. While this has resulted in ease of reporting and easy transfer of large data volume; it has its own unique set of problems.

Ergonomic problems are caused by prolonged use of reporting workstations entailing prolonged sitting, inadequate posture, suboptimal lighting, eye strain and visual problems. Optimal health of radiologists is of primary concern for functioning of department.

MATERIAL AND METHODS: Study was conducted in Radiology department, FFH Rawalpindi; 8 consultants and 16 residents were interviewed. Questionnaire used included questions regarding musculoskeletal and ocular strain, visual problems, workstation lighting, number of working hours, quality of chairs and tables.

RESULTS: All consultants spend 48 hours/week at their workstations; 100% of trainees spend an additional 12 hours per week, bringing it to approx. 60 hours/week. 60% feel the need to vary lighting conditions. 90% had no eye test in last three months. 90% report musculoskeletal symptoms due to absence of adjustable seating at their workstations, while 85% reports visual fatigue. No one had voice recognition dictation systems; hence no comment was made on it.

CONCLUSION: Our study shows that prolonged sitting hours in front of image display devices, bad lightning and poor posture has an alarming impact on visual, musculoskeletal health and overall wellbeing. Positive changes in workstations which promote visual, ocular and musculoskeletal health are essential.

P-75
Radiological audit for improving mammogram reporting by optimal imaging technique and correlative ultrasound

Abdullah Hussain, Saulat Sarfraz, Abdullah Hussain, Khadija Arif
Department of Radiology, Shaikh Zayed Hospital (SZH), Lahore, Pakistan.
E-mail: abdullah.hussain.94@hotmail.com

PURPOSE: This study is directed to review the procedure of mammographic examination, keeping ACR guidelines as a reference. It also determines the supportive role of correlative ultrasound breast in reporting of mammogram.

METHODS: A total of 60 cases undertaking mammography examination were included in the study. The complete procedure of mammography performed by different radiographers and radiologist was observed. The observations was compared to the Mammography Quality Standards act (AQSA) final rules of American College of Radiology (ACR) guidelines. The need of the correlative ultrasound was assessed as an adjunct in reporting.

RESULTS: The mean age of referral was 48 years with presenting complaints of mastalgia, lump in breast and nipple discharge. MO-MO was used as target-filter combination for all the mammograms. Variations from the standard guidelines were noted in the machine settings for voltage, current and x-ray tube angle. Optimum values of compression, collimation and exposure time were also observed in all cases. MLO views were discernable but inframammary fold was not seen in any of the film. Similarly, CC views were perceptible, however, nipple centered on the image was not appreciated in few of the films. Ultrasound also aided in better identification of lesion in 80% of the cases. Contrast enhanced mammography was not performed in any of the case.

CONCLUSION: In comparison to the standard guidelines, some inconsistencies in the procedure of mammography were observed. This was attributed to lack of apprehension of the set guidelines. The improvement in technique can help achieving a greater operational and clinical performance. Also, Correlative ultrasound has assisted value in mammography reporting.

P-76
Lipoinjection: An usual cause of breast lump

Anam Khan, Kulsoom Fatima
Department of Radiology, Aga Khan University Hospital (AKUH), Karachi, Pakistan.
E-mail: anam.khan@aku.edu

Breast Lipoinjection, also known as fat grafting or transplantation is an increasingly popular technique used in plastic surgery for both reconstructive and esthetic purposes. Post lipoinjection imaging requires a thorough knowledge of variation in imaging appearance of these tissues over time.

The patient being described is interesting as she presented with painless left breast lump after fat grafting secondary to fat necrosis and areas of fat necrosis were identified in both breasts. The case has been written after approval from the institute's ethical review committee.

A 40-year-old female, with history of bilateral breast fat grafting 2 years back, presented with painless left breast lump for 7 months. On examination, a soft non-tender mass was palpable at 12 o'clock position of the left breast. Mammogram identified a well-circumscribed rounded fat density lesion withthin, soft tissue rim at the site of palpable abnormality as well as few other similar areas in right retro mammary region. On ultrasound, well circumscribed variable echogenicity, avascular lesions without shadowing were noted in both breasts corresponding to the circumscribed mammographic lucencies. The findings wereconsistent with fat necrosis and deemed benign. Patient was advised usual screening mammography.

Lumps after fat grafting are formed because of inflammatory reaction and fibrosis of the injected fat, followed by fat necrosis. The characteristic appearance of fat necrosis on mammogram is soap bubble–like, well-defined calcified lesions with thin contour lines. On ultrasound, fat necrosis may appear as purely solid masses, complex masses with mural nodulesor anechoic areas with or without posterior enhancement or shadowing, lacking vascularity. If no corresponding benign lesion is found on mammogram or if mammographic findings are suspicious, a biopsy is indicated.

P-77
Marginal zone B cell lymphoma of breast - A rare entity

Mariam Shah, Zenab Farooq, Maira Aslam, Sadia Riaz, Ahmed Moqeet
Department of Radiology, Shifa International Hospital, Islamabad, Pakistan.
E-mail: mariamshah4772@yahoo.com

Marginal zone B cell lymphoma belongs to group of non Hodgkinlymphomas. Breast parenchyma, unlike rest of the major tissues, predominantly lacks lymphatic supply which is the primary pathophysiological cause of rarity of this disease in mammary tissue. A middle aged, premenopausal female, with negative family history for breast cancer, presented to our hospital, with complaint of painlesslump in breast for 1 month, stable in size since first presentation and no definite overlying skin changes on examination. The plan of excisional biopsy was devised by the primary team, and further cytological and histopathological evaluation was done which showed breast core tissue with dense lymphoid infiltrate. Lymphoid infiltrates were present in follicle form as well as scattered thoroughout the tissue. Lobules of breast was preserved. Immunohistochemistry was positive for CD20, CD3 CD23, Bcl2 and weakly positive forCD43 and negative for BCL26, PANCK, CD 10 and CD68 and Ki67 10 percent. Findings were consistent with marginal zone b cell lymphoma. She further underwent diagnostic mammography, which revealed heterogeneously high dense breast parenchyma in bilateral retroareolar regions. Birads category VI was given as it was biopsy proven. Complementary sonographic evaluation showed multiple irregular hypoechoic lesions in both breasts with bilateral axillary pathologic lymphadenopathy. We here aim to present radiographic features of this rare entity and how to differentiate it from other primary malignancies of breast, very sparsely documented in literature previously.

P-78
An unfortunate case of severely complicated breast augmentation: Fat necrosis with abscess formation and septicemia following autologous fat breast augmentation

Rabi Anwar, Mina'a Shahid, Belqees Yawar Faiz, Sana Sayeed, Madeeha Wahla
Department of Radiology, Shifa International Hospital, Islamabad, Pakistan.
E-mail: rabianwar89@hotmail.com

Autologous fat breast augmentation has recently gained popularity as an alternative to breast augmentation with prosthetics but this procedure comes with its own set of complications. One such case is of a 36 year old lady who underwent autologous fat breast augmentation of bilateral breasts. Patient presented to the hospital two days later with complaints of shortness of breath, vomiting, fever and tachycardia. On imaging, patient was found to have pleural effusion. There was no evidence of pulmonary embolism. She was managed along the lines of healthcare associated pneumonia, fluid overload and septicemia. She was discharged after a few days. After two weeks, she was admitted again this time with complaints of fever and pain in both breasts found to be tender on examination. On imaging, there was bilateral marked diffuse edema involving the glandular and retroglandular autologous fat graft extending to the pectoralis, with heterogenous T2, diffusion weighted signal, marginal restricted diffusion and thick enhancement in lipofilling bed. Features were found to be more in favour of early stages of ongoing fat necrosis with a small multiloculated component in left axillary tail which could be an evolving collection. Patient was managed with incision and drainage of the collection in bilateral breasts and broad spectrum antibiotics. As more and more people opt for autologous fat breast augmentation it becomes important to discuss its previously unknown complications and their imaging findings.

P-79
Imaging of breast hamartomas on ultrasound and mammogram

Mahnoor
Department of Radiology, Hayatabad Medical Complex, Peshawar, Pakistan.
E-mail: drmahnooramin@gmail.com

INTRODUCTION: Breast hamartomas are benign neoplasms with incidence of 0.1-0.7% in all benign breast masses. Patients present with painless mobile masses and typically presents in middle age. It can also be detected incidentally during screening and can cause breast enlargement at times. Malignant transformation is very rare however it can occur with masses having increased epithelial tissue. A review of literature described 15 cases of carcinoma associated with hamartomas

OBJECTIVE: To evaluate the role of mammography and ultrasound in diagnosing breast hamartomas

IMAGING TECHNIQUES: Mammography and ultrasound

IMAGING FEATURES: Mammography of several patients presenting with breast lump is done in HMC radiology department with standard CC and MLO

views. Tomosynthesis is also used for patients with dense breasts, for better visualization of the lesion. The lesion turned out to be ovoid in shape with heterogenous parenchymal density and internal fat containing areas. In some patients the lesion has surrounding thin pseudocapsule, radiolucent halo and benign calcifications. It does not reveal significant architectural distortion but causes mild parenchymal compression in few patients with larger hamartomas Ultrasonography reveals the lesion to be well defined masses surrounded by a capsule. The lesion shows mixed echogenicity with both hypo and hyperechoic areas. Doppler showed no significant vascularity due to high amount of fibrous tissue inside the lesion.

CONCLUSION: With increased use of imaging techniques, it is expected to diagnose and report more cases of breast hamartomas. For proper diagnosis both clinical and radiological correlation is needed.

P-80
Necrotizing infection of breast: A rare presentation of breast carcinoma on Homeopathic treatment

Kulsoom Fatima, Javeria Tariq, Muhammad Usman Tariq, Sana Zeeshan
Department of Radiology, Aga Khan University Hospital (AKUH), Karachi, Pakistan.
E-mail: kulsoom.fatima@aku.edu

Necrotizing infection (NI) of breast is a potentially lethal bacterial infection characterized by rapid necrosis of subcutaneous tissue and breast parenchyma which can lead to sepsis and systemic toxicity. Its association with underlying malignancy is rare. We present a case of a 42-year-old diabetic female who presented with NI of right breast while on homeopathic treatment for an unaddressed right breast lump for 6 months. Ultrasound revealed an ill-defined area beneath the palpable lump showing multiple echogenic foci with dirty posterior shadowing, suggestive of air specks, obscuring underlying details along with overlying skin thickening, soft tissue edema and right axillary lymphadenopathy. Computed Tomography (CT) confirmed presence of air-filled cavity in the right breast with thin septations and right axillary lymphadenopathy. There was no enhancing lesion to suggest neoplasm. Tissue culture after debridement showed polymicrobial infection while histopathology of the debrided tissue revealed invasive breast carcinoma which was subsequently managed appropriately.

P-81
Pictorial representation of BIRADS grades of mammography

Rimsha Khan, Kiran Fatima Farooq, Sana Tajammal
Department of Radiology, Fauji Foundation Hospital, Rawalpindi, Pakistan.
E-mail: rimshakhan.dr@gmail.com

OBJECTIVES: For detection and appropriate characterization of breast lesions to indicate the relative likelihood of normal, benign or malignant diagnosis so that routine screening, short interval follow up or biopsy can be planned accordingly.

BACKGROUND: Breast cancers are one of commonly occurring cancers in women. Diagnosis and appropriate characterization of breast lesions by mammography at an early stage can greatly help in treatment plans and outcome goals. After an abnormality is detected on physical examination or mammographic screening, supplementary mammographic views and ultrasound correlation is used to match the findings with an ACR BIRADS final diagnostic assessment category.

PROCEDURE AND FINDINGS: On mammography, we will categorize the lesion according to its breast composition, mass (shape, margins and density), asymmetry (global, focal or developing), architectural distortion, calcifications and associated features (nipple retraction, skin retraction or thickening, axillary lymphadenopathy and trabecular thickening).

CONCLUSION: Consistent and appropriate use of BIRADS assessment categories effectively communicate findings, estimate the risk of malignancy, and provides management recommendations to patients and referring clinicians.

P-82
Rarely occurring variants of breast carcinoma

Sara Shahid, Ayesha Isani Majeed, Hyder Wajid Abbasi, Farheen Raza, Sidra Shahid
Department of Radiology, Pakistan Insitute of Medical Sciences (PIMS), Islamabad, Pakistan.
E-mail: saara.shahid@gmail.com

Invasive carcinoma - in ectopic axillary breast tissue
Axillary accessory breast carcinoma is very rare with incidence of 0.2-0.6%.
We report a case of 47 year old female who presented with complaint of right axillary lump. Ultrasound and mammography confirmed the accessory axillary tissue with a lesion with in it, well away from normal breast with adjacent axillary lymphadenopathy. Trucut biopsy revealed Invasive carcinoma.

Metaplastic Carcinoma of the Breast - a rare and aggressive form of breast cancer. Metaplastic carcinoma of the breast (MCB) is an unusual and aggressive form of breast cancer with an incidence less than 5%.
We report a case of 39 years old female, doctor by profession with complaint of right axillary lump. Ultrasound and Mammography revealed a malignant looking lesion in right breast and histopthology revealed metaplastic carcinoma.

High grade neuroendocrine carcinoma of breast - a rare and challenging neoplasm. The neuroendocrine cell is very rare in breast carcinoma with incidence of less than 0.1%.
We report a case of 85 years old with a large fungating, malignant looking mass in left breast on ultrasound and mammography and histopathology revealed high grade neuroendocrine carcinoma.

P-83
Rare case of bilateral breast metastases due to cerebellar medulloblastoma detected on FDG PET-CT

Wardah Ashfaq, Muhammad Numair Younis, Abu Bakar Shahid
Department of Radiology, INMOL Hospital, Lahore, Pakistan.
E-mail: dr.wardah.ashfaq@gmail.com

Medulloblastomas are most common malignant brain tumor in children with peak incidence between 5-9 years of age and are very rare in adults. The glucose analogue ^{18}F-fluorodeoxyglucose (FDG) is the most widely used PET and PET/CT radiopharmaceutical in clinical routine and used for staging and re-staging tumour patients. Limited studies are available on use of FDG PET-CT in patients of cerebellar medulloblastoma. FDG uptake has been variably correlated with patient survival and leptomeningeal dissemination. In this case study, we report a successful detection of medulloblastoma metastases in a 26 year old female patient with a clinical history of brain surgery and post craniotomy changes with bony defects in right occipital. 361MBq of 18F-FDG was administered intravenously after a fast of 6 hours, maintaining blood glucose level of 99 mg/dL. Imaging of skull to thighs was acquired following 18F-FDG administration. PET imaging was preceded by low dose CT for AC/AL. There was a significant hypermetabolic, heterogeneously enhancing region detected in right cerebellar region that represented local recurrence and metabolically active finding was also observed in posterior mediastinum, bilateral breasts, intervertebral foramen, righ sub-sternal region and left

sub-pleural deposits indicating metastasis of medulloblastoma. FDG non-avid bony changes were also observed which may be due to bone marrow disease/metabolic bone disorder. Histopathology confirmed presence of breast metastases due to medulloblastoma. Our case shows that FDG PET-CT can detect metastases from cerebellar medulloblastoma at rare sites.

P-84

Fetal choroid plexus arteriovenous malformation, masquerading as a neoplastic lesion. A unique case

Afshan Shaikh, Anam Khan, Farwa Mohsin, Sibgha Khan
Department of Radiology, Aga Khan University Hospital (AKUH), Karachi, Pakistan.
E-mail: afshanahakeem@gmail.com

The arteriovenous malformation (AVM) is the abnormal connection between the arteries and the veins with or without intervening network of capillaries. The latter is called AV fistula. Here we are presenting a case report of fetal choroid plexus AVM presented with intrauterine intraventricular and intraparenchymal hemorrhage. A 31yrs old female presented to radiology department for her routine growth scan in which we find disproportionate dilatation of occipital horns of left lateral ventricle with echogenic areas within the left thalamus raising the suspicion of a mass. We advised fetal MRI which showed intraventricular haemorrhage. In addition multiple tortuous vessels showing increased vascularity in the vicinity of haemorrhage were also seen. Findings were confirmed on postnatal MRI brain followed by DSA and embolization of feeding arteries.

P-85

Meckel Gruber syndrome, A case report

Aneesa Batool, Mahwash Mansoor
Department of Radiology, Bolan Medical College Hospital (BMCH), Quetta, Pakistan.
E-mail: aneesabatool86@gmail.com

INTRODUCTION: Meckel-Gruber Syndrome (MKS)was first described by J R Meckel in 1822. It is a rare autosomal recessive disorder with an estimated incidence of 1 in 135,000 live births. It is caused by the failure of mesodermal induction and is considered the most severe ciliopathy since most affected individuals die in utero or within a few hours of birth.

CASE PRESENTATION: In this report we present a case where A 25-year-old pregnant woman presented for routine antenatal scan at Sandeman Provincial hospital in Quetta Pakistan at 18th gestational week of her pregnancy. She had a consanguineous marriage. She was gravida 2 with no alive issue. Her previous pregnancy was terminated as the fetus was diagnosed MGS. Antenatal ultrasonography was suggestive of occipital encephalocele, hypoplasia of the thorax, bilateral polycystic kidneys, and oligohydramnios. These features were suggestive of the diagnosis of Meckel Gruber Syndrome (MKS). The patient was counselled regarding the lethal outcome of MGS. 1300 grams, male fetus was delivered. First and 5th minute Apgar scores were 1 and 0, respectively. Consequently, the baby died after 45 minutes of neonatal resuscitation. The fetus had an occipital encephalocele, polydactyly , and palpable kidneys. Genetic or pathologic postmortem investigation could not be performed because of the patient's reluctance. Diagnosis of MKS was ascertained based on prenatal and postnatal features.

P-86

Embryonal rhabdomyosarcoma of biliary tract masquerading as hydatid cyst/worm infestation

Muhammad Fasih Mansuri, Marya Hameed, Kanwal Laique, Ashraf Amir Ali, Hina Ghauri, Tufail Majeed
Department of Radiology, National Institute of Child Health (NICH), Pakistan.
E-mail: fasih_mansuri@live.com

Rhabdomyosarcoma of childhood is a rare malignant soft tissue tumor of mesenchymal origin with obstructive jaundice being the most common presentation due to this neoplastic biliary obstruction. It commonly occurs in genitourinary tract and head and neck region with a rare occurrence in retroperitoneum and biliary tract. A 5-year-old child presented to us with obstructive jaundice and itching. On imaging, the peri-ampullary mass was misdiagnosed as biliary ascariasis/hydatid cyst; however, operative excision and histopathological correlation of the mass steered us towards the diagnosis of embryonal rhabdomyosarcoma. The patient was referred to the pediatric oncology department for chemotherapy and further follow-up. Despite being a rare entity, embryonal rhabdomyosarcoma of the biliary tract must be suspected in children presenting with obstructive jaundice and should get evaluation through multiple diagnostic tools in order to get accurate diagnosis and avoid a possible misdiagnosis.

P-87

Complete dupilication of urinary bladder with assocoated diphallia and spinal anomalies

Rida Falak Baloch, Irum Shahzad, Robina Batool, Shahzad Karim Bhatti, Mahjabeen Masood
Department of Radiology, Mayo Hospital, Lahore, Pakistan.
E-mail: ridafalak129@gmail.com

Purpose of this study is to aid the appraisal and diagnosis of complete duplication of urinary bladder with associated diphallia which is an extremely rare entity. Only 50 cases of urinary bladder duplication have been reported due to the paucity of its occurrence. Diphallia has an incidence of 1 in 5.5 million live births. It is more common in males than females.22 year old male patient with diphallia and history of orchidopexy, presented with complaint of urinary dribbling and fecal incontinence.

Rretrograde cystourethrogram showed complete sagittal duplication of lower genitourinary tract, diverticuli along posterolateral aspect of urinary bladders. Pubic diastasis and partial agenesis of left sided sacrum was also noted. MRI dorsolumbar spine shows sacral lipomeningocele covered by overlying skin, complete duplication of urinary bladder associated with diverticuli. Two penile shafts united at the base.

Retrograde cystourethrogram thus enables early detection of this rare entity and MRI aids in further evaluation of associated spinal anomalies.

P-88

Thoraco-omphalopagus conjoined twins

Sarah Tashfeen, Kiran Fatima Farooq, Amina Khalid, Sarah Anwar
Department of Radiology, Fauji Foundation Hospital, Rawalpindi, Pakistan
E-mail: sarah.tashfeen01@gmail.com

OBJECTIVE: Conjoined twins is a rare anomaly of monochorionic monamniotic twins whose bodies are joined in utero and they account for 1-2% of identical twins. Their incidence ranges from 1 in 50 000 to 1 in 100 000 live births and female fetuses are more affected with a female to male ratio of 3:1. They are classified into five types: Thoracopagus, Omphalopagus, Pygopagus, Ischiopagus and Craniopagus. Thoracopagus, in which the chest is fused with heart involvement, is the most common type with an incidence

of 35% and omphalopagus is the second most common type with an incidence of 30%.We are reporting one case of thoraco-omphalopagus conjoined twins diagnosed on ultrasonography at 35 weeks of gestation.

CASE REPORT: A 31 years old primigravida with insignificant obstetric history was diagnosed with conjoined twins on ultrasonography at 35 weeks of gestation. The ultrasound revealed conjoined twins united at the thorax and abdomen. An MRI was performed to look for the union of viscera. A LSCS was performed and one baby was delivered dead while the other was alive. Emergency separation of twins was done but the second twin also expired due to cardiac arrest.

CONCLUSION: Early prenatal diagnosis and typing of conjoined twins allows better management of pregnancy, including counseling of parents, continuation of pregnancy, elective mode of delivery, with post-natal surgery, and in a selective cases termination of pregnancy.

P-89
Pediatric pancreatitis and pancreatic pseudocyst

Umar Ajaz, Ayesha Isnai Majeed
Department of Radiology, Pakistan Insitute of Medical Sciences (PIMS), Islamabad, Pakistan.
E-mail: khawajaumer1112@gmail.com

Pancreatitis, although uncommon during childhood, is associated with significant morbidity and mortality. Pancreatitis is characterized by inflammation of the pancreas, clinical signs of epigastric abdominal pain, and elevated serum digestive enzymes. Pancreatitis can be local or diffuse and is classified as acute, chronic, inherited, necrotic, or hemorrhagic. Occasionally, pancreatitis is complicated by the formation of a fibrous-walled cavity filled with pancreatic enzymes, termed a pseudocyst.

We reported a 6 years old female patient with hereditary pancreatitis with history of long standing epigastric pain. She underwent a number of serial ultrasounds and serum amylase/lipase tests. Recently presented with epigastric mass. CT abdomen was done which showed multiple calcific density foci in pancreatic parenchyma with a large pseudocyst in left hypochondrium arising from the body of pancreas and gross abdominopelvic ascities.

P-90
Paediatric pulmonary alveolar microlithiasis: Case report and literature review

Sundas Basharat, Kiran Hilal
Department of Radiology, Aga Khan University Hospital (AKUH), Karachi, Pakistan.
E-mail: sundas.basharat@aku.edu

Pulmonary alveolar microlithiasis is a rare entity characterized by deposition of widespread microliths within the alveoli with resultant inflammation and fibrosis of the lung parenchyma leading to interstitial lung disease. In this case report we present a 5 years old girl presenting with complaint of dyspnea, orthopnea and low grade fever. HRCT examination revealed bilateral diffuse ground glass haziness with reticular shadowing making crazy paving pattern and diffuse fine nodularity with sand like pattern and characteristic black pleural sign. Histopathological findings were consistent with alveolar microlithiasis. The patient was managed conservatively and is awaiting lung transplantation.

P-91
Peer review in MRI reporting - the pros and cons

Shumaila Arooj, Shazia Kadri
Department of Radiology, Jinnah Post Graduate Medical Centre (JPMC), Karachi, Pakistan.
E-mail: shumaila_arooj@hotmail.com

OBJECTIVE: To analyse the additional value of film interpretation by two radiologists and its impact on diagnostic accuracy

METHODS: Fifty reports were reviewed on request from Clinicians from Neurology, Medicine, Rheumatology, Oncology and Neurosurgery. No formal reports were seen before discussion. The reviews were blind folded however there was availability of detailed history and clinical input. Few of the reports were done outside our centre and came for referral for Cyberknife therapy. The reviews were done by senior radiologists with more than seven years post fellowship experience and had sub specialty based training and dedicated experience.

RESULTS: In general MRI of 50 consecutive referrals had an error and discrepancy of approximately 33-40%. Factors leading to disparity included non availability of detailed clinical input, level of expertise of the Radiologist and Radiologists burnout time after a certain number of scans. The errors included false localization, inaccurate differentials, lack of history, non availability of previous imaging.

CONCLUSION: Peer review helps in improvement of radiologists efficiency, increases rate of accurate diagnosis and thus helps in patient care. It is time consuming and should be blinded to avoid bias.

P-92
Outcomes of intracranial cavernoma after Cyberknife radiosurgery at JPMC

Shumaila Arooj, Shazia Kadri
Department of Radiology, Jinnah Post Graduate Medical Centre (JPMC), Karachi, Pakistan.
E-mail: shumaila_arooj@hotmail.com

OBJECTIVE: To study the treatment response in patients with intracranial cavernoma who were treated with stereotactic radiosurgery (SRS) by using a Cyberknife.

MATERIAL AND METHODS: This study includes 24 symptomatic patients (17 males and 7 females) who referred to Cyberknife Robotic radiosurgery department from January 2018 to 2021 March. Cyberknife later treated them.

RESULTS: There were 24 patients with age range 10 to 52 years in which7 were females and 17 were male. SRS was performed in fractions. Any recent hemorrhage or additional neurological deficits were not observed in our treated cases. There were no radiation induced radio necrosis or procedure-related complications noted on follow up imaging.

CONCLUSION: Cyberknife Stereotactic Radiosurgery is an effective and alternative treatment to surgery in cases of surgically-inaccessibleintracranial cavernoma which are, especially patients having high risk of bleeding or with significant medical comorbidities.

P-93

Higher cardiac events with impaired exercise tolerance (METS <7) and lower ejection fraction <45% in patients with medium to large size fixed perfusion defect(s) on gated myocardial perfusion scintigraphy with prior coronary revascularization

Nosheen Fatima,[1,2] Maseeh uz Zaman,[1,2] Sidra Zaman,[3] Areeba Zaman,[3] Unaiza Zaman[4]
[1] *Karachi Institute of Heart Diseases (KIHD), Karachi, Pakistan.*
[2] *Department of Radiology, Aga Khan University Hospital (AKUH), Karachi, Pakistan.*
[3] *Dow Medical College, DUHS, Karachi, Pakistan.*
[4] *Department of Medicine, Sunny Downstate Hospital, NY, USA*
E-mail: nosheen.fatima@aku.edu

PURPOSE: This prospective study was carried out to find the predictive value of fixed perfusion defect(s) for future cardiac events on follow-up gated myocardial perfusion imaging (GMPI) after coronary revascularization (graft surgery and coronary stenting).

METHODOLOGY: This study was conducted at Karachi Institute of Heart Disease (KIHD) after prior approval from ethical committee. Total 330 patients who were referred for GMPI for chest pain evaluation after coronary revascularization from June 2015 till December 2016 were selected. 86 out of 330 patients with fixed perfusion defects on GMPI were included as study population. These patients were followed for 06 years for cardiac events both fatal myocardial infarction (FMI) and nonfatal myocardial infarction (NFMI). Follow up was not available in 11 patients, leaving a cohort of 175 participants. Patients were subdivided according to stress protocol (Bruce protocol in 84 and vasodilators in 91 patients).

RESULTS: Mean age of population was 58 years without statistically significant difference in age, body mass index, diabetes mellitus, hypertension, dyslipidemia, family history and smoking in exercise and vasodilator stress groups (except male dominance in exercise group). No significant Odd ratio (OR) was found for cardiac events in exercise and vasodilators groups with medium to large size fixed perfusion defects on GMPI. In exercise group, metabolic equivalent of task (METS) less than 7 (METS <7) had significant OR and Hazard ratio for future cardiac events in patients with medium to large size perfusion defects as an independent factor (OR=9; CI=1.07-75.5, HR=8.61; CI=2.49-29.75 p=<0.05; and OR=10.1) and as cofounding factor for ejection fraction less than 45% (CI=1.13-90.9; HR=5.66; CI=1.76-18.14; p=<0.05).

CONCLUSIONS: Medium to large sized fixed perfusion defects with LVEF <45% are associated with higher cardiac events rate in patients after coronary revascularization. A lower exercise effort tolerance (<7 METS) is an independent and confounding factor for patients with LVEF <45%. Exercise GMPI has better predictive value for future cardiac events in patients with coronary revascularization.

P-94

Impact of demographic and imaging parameters of baseline FDG PET/CT upon over-all survival in unresectable pancreatic cancers treated with chemoradiation with or without immunotherapy

Nosheen Fatima, **Maseeh uz Zaman**
Department of Radiology, Aga Khan University Hospital (AKUH), Karachi, Pakistan.
E-mail: maseeh.uzzaman@aku.edu

AIM/INTRODUCTION: Pancreatic adenocarcinomas are known to have dismal survival as more than 80% tumors are un-resectable at diagnosis. Chemotherapy with or without radiation is the standard regime in these patients with lower over-all survival (OS). In recent year immunotherapy has been introduced with reported better OS. FDG PET/CT is an effective tool for staging and response evaluation in these patients. Aims of this study were to compare OS in patients with un-resectable PCs who had chemoradiation with or without immunotherapy and its predictor(s) using demographic and imaging parameters of baseline FDG PET/CT scan.

METHODS: This retro-prospective study was conducted at PET/CT Imaging facility of JCIA healthcare facility of Pakistan from (March 2017 till December 2020). Total 29 patients with un-resectable PCs were included who had FDG PET/CT for staging. Seventeen patients (17/29) received only chemoradiation (CRT) while 12/29 received CRT with immunotherapy (CRT+Im). These patients were followed for a median period of 4 months (2-10 months). Kaplan Meier's survival curves were analyzed to measure OS in both groups. Using Receiver operating characteristics (ROC) curve, demographic and baseline FDG PET/CT parameters were plotted to find out significant predictor(s) of OS in both groups.

RESULTS: Patients with CRT had mean OS 6.9 month (5.3 – 8.5) compared to 8.3 months (6.3 – 10.2) who had CRT+Im (p value > 0.5). Using ROC analysis, age, gender, body mass index (BMI), primary tumor size (PTS) and SUVmax of primary tumor in baseline FDG PET/CT did not show significant impact on OS in either group. However, hypermetabolic bony and pulmonary metastases were found to be significant predictors of shorter OS in both groups (AUC: 0.879 and 0.875 in CRT and CRT+Im respectively; p value <0.05).

CONCLUSION: In un-resectable PC no significant difference in mean OS was found in patients treated with CRT and CRT+Im. Age, gender, BMI, PTS and SUVmax of primary tumor in baseline FDG PET/CT were found non-significant predictors for OS in either group. Hypermetabolic bony and pulmonary metastases on baseline FDG PET/CT were found to be significant predictors of shorter OS in both groups.

P-95

Role of computed tomography in evaluation of cerebrovascular accident

Izhar Muhammad, Shandana Khan, Sadia Khanum Khattak, Wasif Farman
Department of Radiology, Northwest Institute of Health Sciences, Peshawar, Pakistan.
E-mail: kizhar468@gmail.com

OBJECTIVE: The purpose of this study is to explore the role of computed tomography in the detection of hemorrhage, infarction, arterial territorial involve in CVA, location and to exclude other causes simulating stroke.

STUDY DESIGN: This retrospective cross sectional study was conducted from November 2019 to February 2020 in NWGH and Research center. We reviewed the CT Record of 300 CVA patients, 252 of them met the inclusion criteria.

RESULTS: Out of these 252 CT scans of clinically suspected CVA patients 174 patients i.e., 69% had infarction, 51 patients i.e., 20% had intracerebral hemorrhage, 10 patients had subarachnoid hemorrhage, i.e., 4% 6 patients i.e., 2.6% had C.V.T, 7 patients i.e., 2.8% had tumors, 4 patients i.e., 1.6% had normal scans. Infarction formed the major group of the CVA cases involving most commonly the MCA territories. Intracerebral Hemorrhage formed the second major group of the CVA cases involving most commonly basal ganglia. In this study 97 patients had history of diabetes mellitus, 178 patients had history of hypertension and 69 patients had history of heart failure.

CONCLUSION: AS CT scan can differentiate between hemorrhagic and ischemic CVA thus helping early management of patient. Our study concludes that CT should be considering as primary medical imaging in case of suspected CVA.

P-96

To assess quality of collimation and reporting of chest radiographs performed in neonatal ICU setting, a quality improvement study

Naila Nadeem, Shahmeer Khan, **Faheemullah Khan**, Ayesha Shoukat, Anwar Ahmed, Kiran Hilal
Department of Radiology, Aga Khan University Hospital (AKUH), Karachi, Pakistan.
E-mail: islamianfellow@hotmail.com

OBJECTIVES: The audit aimed at recording 1) collimation parameters on the basis what has been recommended by American College of Radiology (ACR) and European Society of Radiology (ESR) 2) Reporting turnaround time and 3) Reporting quality of chest radio graphs performed in neonatal intensive care unit settings.

METHODS: A retrospective audit was conducted on 100 consecutive chest radio graphs acquired in neonatal intensive care unit in March 2021. Images of chest radiographs were reviewed by collimation audit panel on departmental picture achieving and communication systems (PACS) to document the collimation settings during acquisition of these radiographs. Appropriate collimation was defined in light of ACR and ESR guidelines. Transcription software was used to extract information for turnaround time and reporting quality of these chest radiographs.

RESULTS: 100 chest radiographs of 23 neonates were reviewed including 11 males and 12 females. 3/23 neonates had a single x-ray performed, 12/23 had 2-5 radiographers performed while 8 neonates had more than 5 radiographs. On a single neonate maximum number of radiographs performed were 17. Collimation settings were appropriate in only 4 radiographs. 95/96 x-ray images included entire chest and abdomen. 12 radiographs had male gonads exposed without a gonadal shield. Only 31/100 radiographs were reported within the departmental cut off window i.e. 3 hours.

CONCLUSIONS: Lack of appropriate history, documented policy for collimation and unawareness of ALARA principle are contributing factors leading to the radiographer's fear of missing the pathology and acquiring a large field of view while performing chest radiographs.

P-97

Tuberculosis rather than interstitial lung disease, the commonest radiological finding on high resolution computed tomography in a local community

Tahira Nishtar, Nosheen Noor, Muhammad Aftab
Department of Radiology, Lady Reading Hospital, Peshawar, Pakistan.
E-mail: tahira.bilal@hotmail.com

OBJECTIVE: To determine the common radiological findings and diagnosis on HRCT in our community.

MATERIAL AND METHODS: This retrospective observational study was carried out in Department of Radiology, Peshawar from 1st January 2014 to 31st December 2014. 101 consecutive cases of HRCT done in the specified period were retrospectively analyzed. Standardized proforma was designed for data collection. All patients who were referred by clinicians for HRCT were included in the study. HRCT was done using standard protocols of 2mm slice thickness, non-contrast, and pulmonary window on single slice CT scanner. Reporting was done by one senior radiologist. Radiological findings and diagnoses were analyzed using latest SPSS version.

RESULTS: Commonest radiological findings were consolidation (33.6%) and fibrosis (27.7%). Cavitation was seen in 14.8% and bronchiectasis in 13.8% of cases. Commonest radiological diagnosis based on these findings was inflammatory lung disease-tuberculosis (56.4%). Second common diagnosis was infective pneumonia (19.8%).

CONCLUSION: Although HRCT is the modality of choice for interstitial lung disease, but radiological manifestations of tuberculosis and its sequelae was found the most common radiological diagnosis in our study due to high prevalence of disease in the community.

P-98

Pictorial review of imaging findings of tuberous sclerosis complex (TSC)

Khurram Khaliq Bhinder, Samreen Aslam, Humaira Bashir, Sana Sayeed
Department of Radiology, Shifa International Hospital, Islamabad, Pakistan.
E-mail: kkbhinder@yahoo.com

OBJECTIVE: The objective of this article is to present imaging findings in tuberous sclerosis complex, which will eventually help in imaging based diagnosis.

STUDY DESIGN: Retrospective study

PLACE AND DURATION OF STUDY: Radiology Department, Shifa International Hospital, from 2010 to 2021.

METHODOLOGY: Total of 20 patients were selected from the radiology database retrospectively from 2010 to 2021. These patients were diagnosed with Tuberous Sclerosis by radiology department and their scans were performed and reviewed at CT and MRI machines of Shifa International Hospital. CT scan was performed on Toshiba 640 slices, Siemens 128 slices and Siemens 16 slices, and MRI was performed on Siemens 3 tesla, Toshiba-titan 1.5 tesla and Hitachi 0.4 tesla. The literature review was also done to identify different organ system involvement of this disease.

RESULTS: Different organ system involvement by this disease and imaging features of them are reported. Commonly seen neurological abnormalities are subependymal nodules, cortical tubers, subependymal giant cell astrocytomas (SEGA), and white matter abnormalities. Cardiac rhabdomyomas and myocardial fatty foci (MFF) are seen when cardiac system is involved. TSC manifestation in pulmonary system are lymphangioleiomyomatosis (LAM) and multifocal micronodularpneumocyte hyperplasia (MMPH). Angio-myolipoma, renal cysts, renal cell carcinoma and oncocytomas are seen when renal system is involved. Frequently seen bony manifestations of TSC include sclerotic bone lesions, hyperostosis of the inner table of the calvaria, osteoblastic changes, new bone formation, bone cysts and scoliosis

CONCLUSION: TSC has wide range of radiological imaging findings. Recognition of various organ manifestations on imaging is necessary for making the accurate diagnosis and is helpful in the treatment plan.

P-99

Doppler sonographic evaluation of arteriovenous fistula in dialysis patients

Alveena Waheed, Kiran Fatima, Faryal Asmat
Department of Radiology, Fauji Foundation Hospital, Rawalpindi, Pakistan.
E-mail: alveena447@gmail.com

OBJECTIVES:
1- To evaluate spectral pattern and flow velocities of arteriovenous fistula on doppler sonogram in dialysis patients
2- To review common complications associated with arteriovenous fistula

BACKGROUND: AVF is method of choice for vascular access in chronic renal failure patients. Duplex doppler ultrasound is noninvasive modality of choice. It is easily available, quick and less expensive. It plays crucial role in

providing road map to vascular surgeons in determining appropriate timing for starting dialysis after fistula maturation and in follow up of patients regarding development of complications.

PROCEDURE AND FINDINGS: Spectral pattern, flow velocities and associated complications of arteriovenous fistula were analyzed on Doppler sonography of hemodynamically stable patients. Pictorial presentation of these findings will be displayed on the poster

CONCLUSION: Doppler sonography is main noninvasive modality of choice for analysis of surgical /vascular changes in AV fistula. Early recognition of complications helps in prompt management of chronic renal failure patients