RADIOLOGY RECOVERY ROOM, HOW WELL WE ARE USING IT?

Raza Sayani, Amin Rajani, Shirin Irfan, Mohammad Asif Bilal

Department of Radiology, The Aga Khan University Hospital, Karachi, Pakistan.

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Introduction

Recovery rooms are being efficiently utilized in operation theatre setting over period of time and are now well established requirement in any hospital with surgical setup. Similar holdup setups are also effectively used in ER, cardiology, pediatric etc.[1,2] With overall growth in the Radiological modalities there has been increase in the therapeutic procedures being performed under radiological guidance. With this increase in intervention the need for nursing support has also increased. Recovery rooms in radiology department serve as an important merger point for the co-ordination.[3] Whilst the procedure is performed in CT, fluoroscopy or ultrasound rooms, the pre / post monitoring and management are performed in rooms in close vicinity of the imaging sections where trained nurses effectively co-ordinate with patient, attendants, radiologist, radiographers and clinicians and manage the patient before and after the procedure when required. This not only ensures more efficient patient care but also reduces the on-table occupancy time.

Purpose

The Primary objective of this audit was to see the utility of recovery room in radiology. To identify the sections from where patients were referred their reasons for referral, time occupancy, requirements and the short comings.

Material and Methods

All patients received in radiology recovery room between June 2011 and August 2011 was included in the audit. Data was reviewed with respect to the modality from where the patient came before or after the procedure. The reason for patient's visit to recovery was also evaluated during the audit; keeping in mind that each patients has particular requirements like I.V cannulation, vital monitoring and post procedure care etc. Important factor considered in the audit was patient's time occupancy of recovery room and check if proper documentation was done by the relevant modality from where the patient had come for recovery and whether the recovery room staff did proper documentation upon discharge of patient from there.

Correspondence : Mr. Amin Rajani
Department of Radiology
Aga Khan University Hospital,
Stadium Road, P.O. Box 3500, Karachi 74800
Paksitan. Tel No.: 34930051 - Ext. 2020
Email: rajani.amin@aku.edu

Results

Total of 291 patients were managed in recovery room, amongst which 175 were outpatients and 116 were inpatients. 182 patients came before procedure and 141 were for post procedure management. Maximum patients in recovery room were from intervention suite (non-cardiac vascular as well as non-vascular) however 55 were from ultrasound, 46 from CT scan, 21 from MRI and 28 for miscellaneous reasons. The main reasons for occupancy were either observation (n=113) after any procedure or waiting (n=108) mainly for intervention procedure, here the patient is often prepared by cannulation (n=28), antibiotics and blood pressure control etc. Patients are moved for vascular access sheath removal, other main reasons of post procedural observation are post-anaesthesia recovery or liver, lung biopsies etc. The maximum time occupancy is usually for out- patient post angiographic observation where the patient has to stay in bed for six hours after removal of vascular access sheath. Liver, lung biopsy patients are also observed for two hours. Dressings are performed in the recovery room as well as appointments are given by the for biopsies after discussion with radiologists. Emergencies as immediate CPR or patient care are also managed by nursing staff as it serves as a station for nurses in radiology department.

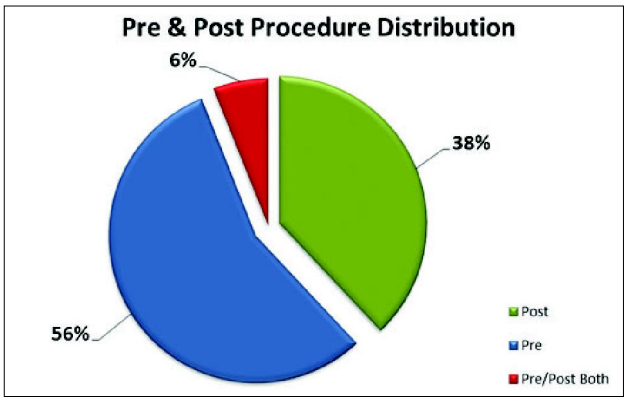

Figure 1: Pre & Post Procedure Distribution

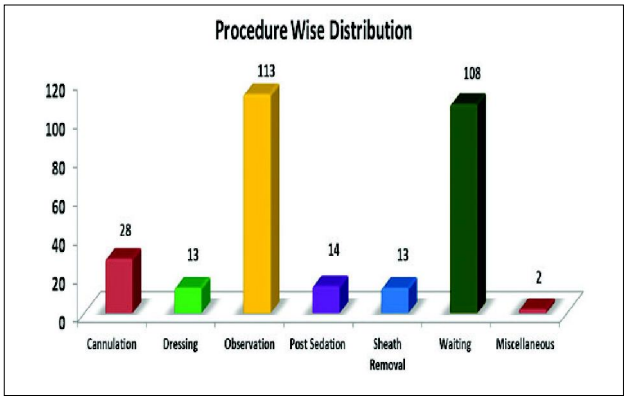

Figure 2: Procedure Wise Distribution

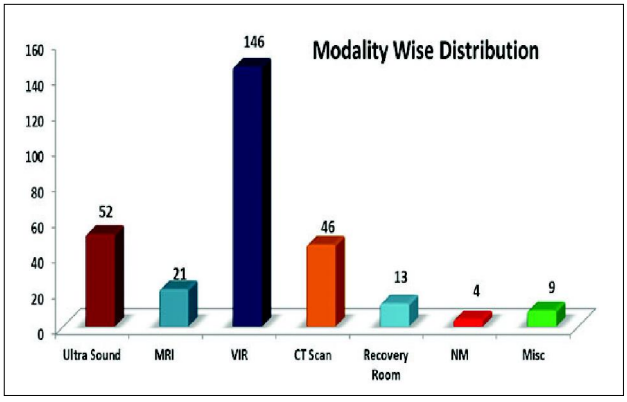

Figure 3: Modality Wise Distribution

Discussion

Recovery rooms have been utilized effectively in Anesthesia department for quite some time, it helped in pre-procedural preparation and as a waiting room for the patient in vicinity of Operation Theater, definitely post procedural recovery is also effectively managed. They have been utilized in pediatrics and found to be effective.[4,5] In radiology role of recovery room could be a question for some people who are unaware of the fact that radiology today offers an alternate for many of illnesses which earlier would require surgery options like aneurysm coiling, vascular angioplasty and stentings, other than that radiology has today become a major source for diagnosis through interventional procedures like biopsies, taps and drainages through which samples are assessed in laboratory to identify the diseases. All such major or minor interventional procedures would require an area for pre procedure preparation as well as post procedure recovery.[6] A busy radiology departments with continuously appointed patients can effectively reduced time occupancy in the procedure room, before and after the procedure by shifting the patient to the recovery room which is managed by trained nurses to monitor the patients for any after care.[7] Also it serves to prepare the patient for the procedure as reduced blood pressure, transfuse plasma or blood etc and to check for any other medication. It again serves as waiting room for critically ill patients who are called for the procedure and cannot be managed in corridors of Department while the radiology procedure room is prepared. This not only results in more procedures being managed as outpatient and results in less admissions in already burdened Hospitals where lack of bed availability results in delay in the procedures and patients management. Similar strategies have been effectively utilized in emergency ward not only tackling the overcrowding but also improved patient care.[8,9,10] The cost of the procedure also reduces since the patient is managed as outpatient; this was also observed by O'Brien et al where bed usage increased in cardiac recovery room and resulted in shortened stay.[11] We have successfully performed many vascular angiographies with post procedure monitoring of at least 6 hours due to availability of recovery room. Our data showed that although these patients are managed successfully there were times when all three beds were occupied and even with addition of one more stretcher there was some time need for more space. The nurses in recovery room are responsible to take formal over of admitted patients from nurses who come to radiology for handing over patients for procedures this helps in proper management of patients as radiology nurses are fully aware about the needs and condition of patients handed over in their care, but other than the patients who are in recovery room pre or post procedures, this room is also overburdened by patients appointments of other intervention procedures for ultrasound guided interventions or CT

guided biopsies etc, as the nurses in recovery room manage these appointments so proper patient education is done in order for right preparation prior to procedures which otherwise would result in delay or complications on day of procedures and this system has resulted in timely management of procedures as patients are rightly prepared prior to procedures. On the other hand we found some deficiencies in documentations of records as the nurses are over burdened with other work which gives them less time towards accurate documentation and thus now requires more intense record keeping. As patients comes from various sections of radiology to recovery room either for pre or post procedures, where nurses have to use at times medical surgical items on patients; this becomes an issue for recovery room with respect to medical surgical items charging of each individual patients and management of inventory section wise. May be computerized system of patients or unit wise charging with bar codes may be a good option to resolve it. One of biggest challenge is the space or number of beds available, the growing demand of procedures and known fact of affectivity because of pre procedure prep and post procedure recovery the usage of recovery room is growing rapidly.[12] A department with three recovery beds which is catering six to seven hundred patients in working hours and many intervention procedures along with Cardiac CT scans makes it difficult at times to manage and give quality service to patients coming. This signifies a genuine need to enhance the number of beds in recovery for quality care.

Conclusion

Beyond doubt recovery room are becoming an indispensable unit of radiology departments where some sort of interventions through biopsies under CT or Ultrasound is being performed or major interventions like Embolizations, aneurysm coiling, vascular angioplasties & stentings or biliary and urology interventions are carried out. Recognition of short-comings in recovery room will help plan in expansion of not only the physical unit and facilities, but also emphasize on improvement of quality and quantity of the dedicated nursing staff. Our study narrates that recovery room should be given a due importance because of its role in enhancing the services.

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