PJR April - June 2016; 26(2): 159-162

Commentary

Fine Needle Aspiration Cytology (FNAC) and Percutaneous Core Needle Biopsy (PCNB) are both widely used techniques for the determination of the nature of focal lung lesions. It is generally thought that FNAC is safer but less reliable for benign lesions but PCNB is associated with a higher complication rate but has a better diagnostic yield across the board. Zhang et al conducted a meta analysis to test this assumption. Their findings suggest that either technique when applied diligently is both safe and accurate with little to choose between the two. As always the choice will come down to local expertise and availability of the necessary tools to carry out one or the other.

fMRI has been around for some time but has found few applications (other than neurosurgical planning) outside of the neurosciences lab. The introduction of resting state fMRI promises to bring this out of the lab into everyday practice giving us the ability to look and the natural connections and networks in the brain. In this context Liang et als work is exciting as it indicates that we may soon have biomarkers for functional neurological disorders. If this was to materialise then the application of similar techniques to psychiatric and neuro psychiatric disorders may also be possible allowing us for the first time to image conditions such as schizophrenia.

Academic dishonesty takes many forms. It most common form, often thought benign (which it is not) is gift authorship. This phenomenon involves including those people as authors who have made no contribution to the article either intellectual or otherwise name of the authors. This is a global phenomenon and affects not just Pakistan and Radiology but the academic community at large. Kapoor at el try and quantify the problem and although there is no direct method of determining individual contributions they find that the total average number of authors has been progressively increasing over the past 3 decades. This is trend is worrying but there is little that can be done other than exhorting people to be honest with their effort and only claim credit where credit is due.

Claustrophobia and anxiety prior to and during Magnetic resonance exams is not uncommon. Many centres use various claming and feedback techniques to address this in the hope that the relaxed patient will be more cooperative and therefore the movement during scans and repeat studies will be minimised. Klaming et al explore the relationship between anxiety and movement during MR scan and find that there is no evidence for this. Both anxious and non anxious patient move as often or not as the case may be.

And now for something completely different. Professionalism. How to teach it. How to test it. How to ensure that the message gets across. Gunderman in his usual style narrates the fascinating story of a physician who was also a beauty pageant contestant. Drwing parallels between the two worlds and making the point that human interactions are human interaction no matter which setting they take place in.

Prof. Zafar Sajjad
Professor of Radiology
Aga Khan University Hospital, Karachi, Pakistan.

Clinical Radiology 2016; 71(1): e1-e10

H.-F. Zhang, X.-T. Zeng, F. Xing, N. Fan and M.-Y. Liao

The diagnostic accuracy of CT-guided percutaneous core needle biopsy and fine needle aspiration in pulmonary lesions: a meta-analysis

AIM: To determine and compare the diagnostic value of computed tomography (CT)-guided percutaneous core needle biopsy (PCNB) and percutaneous fine-needle aspiration biopsy (PNAB) in pulmonary lesions.

MATERIALS AND METHODS: PubMed, EMBASE, and the Web of Science were systematically searched for relevant studies that investigated the diagnostic accuracy of CT-guided PCNB and/or PNAB for pulmonary lesions up to December 2014. After study selection, data extraction, and quality assessment, the sensitivity (SEN), specificity (SPE), diagnostic odds rate (DOR), positive likelihood ratios (PLR), negative likelihood ratios (NLR), and summary receiver operating characteristic (SROC) curves were calculated using the Meta-Disc 1.4 software.

RESULTS: Nineteen publications, including 21 independent studies, met the inclusion criteria. Of them, 15 studies were included in the PCNB group and six studies in the PNAB group. The pooled SEN, SPE, DOR, PLR, NLR, and SROC were 0.95, 0.99, 54.72, 0.06, 821.90, and 0.98 in the PCNB group and 0.90, 0.99, 24.71, 0.14, 210.72, and 0.98 in the PNAB group, respectively.

CONCLUSION: Based on current evidence, both PCNB and PNAB can be used as diagnostic methods to distinguish benign and malignant pulmonary lesions; the difference between PCNB and PNAB regarding diagnostic accuracy of benign or malignant pulmonary lesions is not obvious.

Clinical Radiology 2016; 71(1): e28-e34

Y. Li, P. Liang, X. Jia and K. Li

Abnormal regional homogeneity in Parkinson's disease: a resting state fMRI study

AIM: To examine the functional brain alterations in Parkinson's disease (PD) by measuring blood oxygenation level dependent (BOLD) functional MRI (fMRI) signals at rest while controlling for the structural atrophy.

MATERIALS AND METHODS: Twenty-three PD patients and 20 age, gender, and education level matched normal controls (NC) were included in this study. Resting state fMRI and structural MRI data were acquired. The resting state brain activity was measured by the regional homogeneity (ReHo) method and the grey matter (GM) volume was attained by the voxel-based morphology (VBM) analysis. Two-sample t -test was then performed to detect the group differences with structural atrophy as a covariate.

RESULTS: VBM analysis showed GM volume reductions in the left superior frontal gyrus, left paracentral lobule, and left middle frontal gyrus in PD patients as compared to NC. There were widespread ReHo differences between NC and PD patients. Compared to NC, PD patients showed significant alterations in the motor network, including decreased ReHo in the right primary sensory cortex (S1), while increased ReHo in the left premotor area (PMA) and left dorsolateral prefrontal cortex (DLPFC). In addition, a cluster in the left superior occipital gyrus (SOG) also

showed increased ReHo in PD patients.

CONCLUSION: The current findings indicate that significant changes of ReHo in the motor and non-motor cortices have been detected in PD patients, independent of age, gender, education level, and structural atrophy. The present study thus suggests ReHo abnormalities as a potential biomarker for the diagnosis of PD and further provides insights into the biological mechanism of the disease.

Academic Radiology 2015; 22(12): 1587-91

Neena Kapoor MD, Matthew V. Abola BA, Anupam B. Jena MD, PhD and Stacy E. Smith MD

Trends in Authorship Patterns in High-Impact Radiology Publications, 1980–2013

RATIONALE AND OBJECTIVES: Concerns have been raised about authorship inflation in medical literature. The purpose of this study was to determine how the number of authors per radiology article has changed over time with regard to study type and geographic factors.

MATERIALS AND METHODS: We collected data on study type, authorship count, and the country of the corresponding author for a sample of articles published in Radiology, American Journal of Roentgenology, and European Radiology in 1980, 1990, 2000, and 2013. Only original research and review articles were considered. We computed trends in the mean number of authors per article for each journal and compared authorship trends between study types and geographic region. The study did not involve human subjects and was therefore exempt from institutional board review at our institution.

RESULTS: A total of 682 articles were reviewed, of which 572 were original research articles (83.9%) and 110 review articles (16.1%). The overall number of authors per article doubled from 3.6 in 1980 to 7.3 in 2013 ($P < .001$). From 1990 to 2013, the largest absolute increase in authorship count was in Radiology (4.4–8.1, 84.1%, $P < .001$). The largest increase in authorship occurred in original research articles (3.7–7.8, 111%, $P < .001$). Although authorship counts were greatest in Asia over most study period, growth in authorship count was highest in Europe.

CONCLUSIONS: Authorship count has dramatically increased in radiology journals in the last 3 decades, particularly in original research articles and in Europe.

Academic Radiology 2015; 22(12): 1571-8

Laura Klaming PhD, Daisy van M inde MSc, Hans Weda PhD, Tim Nielsen PhD and Lucien E.M. Duijm MD, PhD

The Relation Between Anticipatory Anxiety and Movement During an MR Examination

RATIONALE AND OBJECTIVES: During a magnetic resonance imaging (MRI) examination, patients are required to remain still to minimize motion that may compromise image quality and may make rescanning necessary. It is often assumed that anxiety, which is experienced by a considerable number of patients undergoing an MR examination, increases motion and decreases image quality. The present study explores

the relationship between anxiety and movement of patients during an MR examination.

MATERIALS AND METHODS: Anxiety was measured subjectively by means of the State Anxiety Inventory and a visual analogue scale for claustrophobia. Motion and image quality were measured in three different ways. First, software was used that allows an estimation of motion based on tracker scans between the clinical scans. Second, the MRI technician who performed the MR examination was asked to indicate the degree of motion artifacts and image quality for each patient. Third, after all scans had been collected, two radiologists evaluated each clinical scan.

RESULTS: No or low correlations between anxiety and the distinct measures of motion and image quality were found for all three measures.

CONCLUSIONS: This finding shows that there is little evidence for the assumption that anxiety increases motion and decreases image quality during an MR examination.