

Commentary

We are all now familiar with the format of multiple choice questions. They have been the norm for written assessments in most parts of the world. They have undergone many iterations as educationists have obtained insight into their reliability and reproducibility. Starting from simple true and false statements and going to single response best choice has been a long journey. All educationists and (most students) realise the value of a well made MCQ and the bane that poorly made ones can be. In high stake assessments such as Fellowship certifying exams it is imperative that the quality of the questions is up to the mark. In this context the DiSantes et al look at the quality of MCQs used in the top Radiology journals and find that their quality leaves much to be desired. This should be a cautionary tale for the certifying bodies especially The College of Physicians and Surgeons of Pakistan. Ensuring the quality of the MCQs is a big ask but necessary if they are to be a “high stakes” assessment tool.

Most male members of the editorial board of this journal (including this commentator) are at that age when the next two articles (which are related to each other) are of personal interest. Prostate cancer accounts for 15% of all new cancers in men (WCRF, 2012). Men above the age of 50 years are at increasing risk with the peak incidence at 70-75 years of age. Multi-parametric magnetic resonance imaging (MRI) is a new tool in the imaging of this disease. Although it provides exquisite anatomical images its performance is still being evaluated. The test is expensive and the addition of contrast further increases this cost. The meta analysis of Dynamic Contrast Enhanced (DCE) MR versus plain T2 weighted for prostate cancer therefore is important as it provides evidence to justify this additional cost. They find that combining high quality Diffusion Weighted Imaging (DWI) with T2 images gives the same tumour detection rate as T2 and DCE. The best results are however obtained when the three are used together.

In the same context (and in the same issue of the journal) Rosenkrantz et al remind us that despite the detail obtained on the images the tumours may not be immediately obvious and suggest “hiding places” which should be review areas for the reading radiologists.

Emergence of antibiotic resistant strains on pathogens is a serious threat to human health. The South East Asian Subcontinent is thought to be a major source of these resistant organisms as the use of antibiotics is largely uncontrolled. The use of prophylactic antibiotics before “clean” elective procedures is always an issue for debate. In a country like Pakistan there is a temptation to use them in an effort to prevent post procedure complications. They are sometimes used instead of tightening aseptic and sterilisation procedures. Sutcliffe et al review the current evidence for the use of antibiotics in interventional radiology. The produce table given as an appendix of their article which very nicely and succinctly lists the current recommendations. Another very useful suggestion is to keep the microbiologists and the infectious diseases physicians involved in the development of local consensus as far as antibiotic use is concerned.

Prof. Zafar Sajjad

Professor of Radiology

Aga Khan University Hospital, Karachi, Pakistan.

American Journal of Roentgenology 2015; 204(4): 698-702

David J. DiSantis, Andres R. Ayoub, and Lindsay E. Williams

Prevalence of Flawed Multiple-Choice Questions in Continuing Medical Education Activities of Major Radiology Journals

OBJECTIVE: The purpose of this study was to assess whether the continuing medical education (CME) multiple-choice questions (MCQs) in three major radiology journals adhere to standard question-writing principles.

MATERIALS AND METHODS: All CME MCQs (total of 181) in the January 2013 editions of the AJR, Radio Graphics, and Radiology composed the test sample. Each question was evaluated by three reviewers for

compliance with seven MCQ-writing guidelines that have been documented in the medical education literature as associated with frequent flaws in medical CME.

RESULTS: Seventy-eight of the 181 (43%) questions contained one to four flaws.

CONCLUSION: A large fraction of radiology CME questions violate standard question-writing principles.

American Journal of Roentgenology 2015; 204(4): 439-48

Cher Heng Tan, Brian Paul Hobbs, Wei Wei, and VikasKundra

Dynamic Contrast-Enhanced MRI for the Detection of Prostate Cancer: Meta-Analysis

OBJECTIVE: The purpose of this study was to systematically review and meta-analyze dynamic contrast-enhanced MRI (DCE-MRI) for the detection of prostate cancer in comparison with standard evaluation with T2-weighted imaging.

MATERIALS AND METHODS: A PubMed electronic database search for the terms “dynamic contrast-enhanced,” “prostate,” and “MRI” was completed for articles up to September 17, 2013. All included studies had histopathologic correlation. Two by two contingency data were constructed for each study. A binormal-bayesian ROC model was used to estimate and compare sensitivity, specificity, and AUC among eligible modalities.

RESULTS: Both DCE-MRI (0.82–0.86) and diffusion-weighted MRI (DWI) (0.84–0.88) yielded significantly

better AUC than T2-weighted imaging (0.68–0.77). Moreover, partial AUC for the combination of DCE-MRI, DWI, and T2-weighted imaging was improved significantly (0.111; 0.103–0.119) when compared with DCE-MRI alone (0.079; 0.072–0.085) and T2-weighted imaging alone (0.079; 0.074–0.084) but not DWI alone (0.099; 0.091–0.108). Sensitivity and specificity were similar among the four modalities.

CONCLUSION: DCE-MRI improves AUC of tumor detection overall compared with T2-weighted imaging alone. Methods for DCE-MRI analysis require standardization, but visual analysis performs similar to semiquantitative methods. A two-parameter approach using DCE-MRI and T2-weighted imaging or DWI and T2-weighted imaging may be sufficient, and the latter may be more favorable for most routine prostate cancer imaging.

American Journal of Roentgenology 2015; 204(4): 449-56

Andrew B. Rosenkrantz, Sadhna Verma, and Baris Turkbey

Prostate Cancer: Top Places Where Tumors Hide on Multiparametric MRI

OBJECTIVE: Prostate tumors occasionally have unusual manifestations on multiparametric MR images that can present a diagnostic dilemma and result in a false-negative interpretation. This article presents examples of such "hiding places" of prostate tumors, four in the peripheral zone and four in the central gland.

CONCLUSION: The provided pointers in multiparametric MRI assessment can aid the radiologist in achieving an accurate diagnosis of tumor in the eight scenarios described.

Clinical Radiology 2015; 70(3): 223-34

J.A. Sutcliffe, J.H. Briggs, M.W. Little, E. McCarthy, A. Wigham, M. Bratby, C.R. Tapping, S. Anthony, R. Patel, J. Phillips-Hughes, P. Boardman, R. Uberoi

Antibiotics in interventional radiology

ABSTRACT: The range and number of interventional procedures is rapidly increasing each year. A major complication associated with many procedures is infection, which can result in serious adverse outcomes for the patient. Consequently, antibiotics are amongst the most common pharmaceuticals used by the interventionist, particularly for non-vascular procedures,

yet almost no randomized controlled trial data exist to inform our decision when formulating appropriate antibiotic prophylaxis regimens. The purpose of this review is to provide an update on the utilization of antibiotics for common interventional radiology procedures, focusing on timing and duration of antibiotic prophylaxis.