15. Sensitivity in visualizing vegetations in cardiac lead-induced endocarditis: A comparative study between transesophageal vs. transthoracic echocardiography

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Despite advancement in sterile cardiac device implantation techniques, wound infections and/or bacteremia remain a significant problem. The presence of a vegetation in lead-induced endocarditis (LIE) is a critical factor that determines the management. Transthoracic (TTE) and Transesophageal (TEE) Echocardiography are two different cardiac modalities that are used for the detection of lead vegetation. However, it is not yet clear which of the two has the highest diagnostic accuracy. We aim to identify which of the two has the highest sensitivity. In addition, we aim to correlate the existence of a vegetation with blood and wound culture results. We conducted a chart review in 113 patients whom underwent lead extraction at Prince Sultan Cardiac Center in Saudi Arabia during the period of Jan, 2002 to Jul, 2015. Six patients underwent lead extraction twice, increasing the number to a total of 119 cases. Out of the study cohort, we include 38 patients who had both TTE and TEE done prior to lead extraction. Data regarding TTE, TEE, as well as blood and wound cultures were collected from echocardiography and microbiology lab reports using a...
well-structured case report form. Of the study population, 21 patients (55.3%) had lead vegetations visualized either by TTE or TEE. Nineteen patients had vegetations detected by TEE, compared to 6 patients only when TTE was used. The sensitivity of TEE and TTE were 90.5% (CI: 69.6–98.5%) and 28.5% (95% CI: 11.3–52.1%), respectively. Blood and wound culture results showed that in the presence of a vegetation, blood cultures were positive in 55% of the cases ($P = 0.036$) while only 44.4% of those with vegetations had a positive wound culture ($P = 0.347$). TEE has higher sensitivity in detecting vegetations compared to TTE in LIE. The presence of a vegetation is more likely to be associated with a positive blood culture than a positive wound culture. Further studies ought to measure the accuracy of different modalities for capturing a vegetative lead. That is, measuring the additive value of blood and wound cultures to the overall cardiac imaging sensitivity, and to calculate the sensitivity of the combined techniques.

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16. Optimal guidance of percutaneous device closure of PDA by transthoracic echocardiography

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Patent ductus arteriosus (PDA) is common congenital cardiac lesion and the most accepted way of management is transcatheter occlusion by device which is usually done under fluoroscopy guidance. Transoesophageal echocardiography and transaortic imaging were used in adult to guide the procedure which is with certain applications in pediatric age group transthoracic echocardiography (TTE) in pediatric population provides excellent images for PDA and may replace the use of fluoroscopy to guide PDA closure at least in special situations. To highlight the feasibility of device closure under guidance of TTE to be applied in sick patients who are not suitable for transfer to cardiac catheter laboratory or those with contraindication to contrast and or radiation application. 18 patients from July 2013 to May 2015 underwent TTE guidance device closure of PDA, 1 patient was excluded after device embolization which necessitate retrieval under fluoroscopy (fluoro.). Conscious sedation was used in 17 patients except 1 who was sick and already ventilated in ICU, there were 11 female and 7 male, antegrade approach was used in 10 patients with partial fluoro and retrograde approach in 8 patients without fluoro. Median age is 7 months, median weight is 8 kg (3.2-11 kg), 2 patients with renal impairment, 2 with Leukemia, median procedure time is 35 min, median fluoro. is 2.2 min, PDA size were small in 13 patients and moderate in 5, immediate closure is achieved in all. The devices were ADOL, ADOS, AD110, Occlutech, and AVP2. Device embolization in 1 with successful retrieval and second device was used with complete closure percutaneous PDA closure under TTE guidance is feasible, safe and recommended in selected patients with certain situation.

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Abstract Session 3

17. Usefulness of portable ultrasounds in screening for valvular heart disease in children

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Portable ultrasound machines are becoming increasingly useful in bedside routine exams and field surveys for early detection of heart disease. This is especially important for rheumatic heart disease (RHD) which is an emerging public health problem in developing countries. The aim of this study was to screen primary school children, with a focus on females living in rural settings, for valvular disease. Methods: A total of 465 girls aged 8–12 years were screened using portable vivid-e GE machine. All subjects were exposed to full history and clinical examination as well as a routine echo exam for left ventricular (LV) function assessed by M-Mode for fractional area shortening (FAS) and ejection fraction, assessment of mitral valve morphology, color Doppler and spectral Doppler for all four valves using pulsed and continuous wave spectral Doppler. Suspicous cases were referred to a higher center in Cairo University Children Hospital and followed up in the AFCRHD follow up clinic. Laboratory studies for anti-streptolysin-O (ASO) titer and C-reactive protein was carried out for suspicious cases. Findings: The study detected 24 children with valvular abnormality by echo examination. Mitral regurgitation (MR) was the commonest findings being detected in 21 cases (10 RHD and 11 congenital); one case with mitral stenosis (MS) of rheumatic origin, aortic regurgitation (AR) in 4 cases and stenosis in one case; tricuspid regurgitation in 4 cases and pulmonary regurgitation in one case. The AR detected was in the range of 10–30% i.e. mild to moderate, cases with trivial regurge were excluded from the study. Mitral valve thickening and decreased mobility were evident in the cases diagnosed as RHD. However one case with congenital mitral prolapse also showed valve thickening. Hence the overlap between RHD and congenital prolapse did present a diagnostic dilemma. Overall RHD was diagnosed in 13 cases (6 definite and 7 suspected). Ventricular function assessed by M-mode for FAS and EF as well as spectral Doppler findings were within the normal range for age. Epidemiological assessment showed that most of the cases with positive echo findings came from the rural areas (91.7%) and were characterized by high maternal