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The role of transesophageal echocardiography in a tertiary congenital heart centre: retrospective study on 1045 consecutive examinations

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Introduction:

Transesophageal echocardiography (TEE) has become a major diagnostic tool in care of patients with congenital heart disease in any age group since the development of small pediatric probes. To evaluate the clinical role of TEE in a tertiary congenital heart centre we re-evaluated 1045 consecutive examinations with focus on age, indication, technical procedure and impact.

Results:

Out of 1045 examinations, 10 % were performed in patients less than 1 year of age, 14 % in children aged 1 to 6 years, 10 % in patients 6- 12 years old, 11 % in those 12 -18 years old, and 55 % in adults.

Main indication in the pediatric group was pre- intra and postoperative TEE (69 %), followed by periprocedural TEE at catheter interventions (15 %). In the adults, the main indications were catheter interventions (39 %), perioperative (23%), and search for thromboembolic sources (18%), suspicion of endocarditis was the indication in 3,2 % of pediatric and 4 % of adult patients.

A significant impact on intra- and post operative procedure was found in 20 %: the rating of regurge after reconstruction of AV-valves made a re-doing necessary, also a persisting shunt after closure of ASD or VSD, an important role is the measuring of the ventricle function while ECMO weaning.

Conclusion:

Perioperative TEE is the main cause of all TEE in the pediatric group, followed by catheter interventions. In the adult congenital group catheter interventions are the leading indication. Using TEE while catheter interventions the radiation dosage can be reduced. TEE performed in the operation theatre helps to avoid early reoperation because of suboptimal results. All congenital cardiac units should have the TEE option available.