

ATRIAL SEPTAL DEFECT CLOSURE (ASD AND PFO) WITHOUT FLUOROSCOPY IN BOTH PAEDIATRIC AND ADULT PATIENTS – 17 YEARS OF EXPERIENCE

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INTRODUCTION

Defects of the atrial septum are common. Closure might be indicated and performed interventionally with transcatheter devices guided by fluoroscopy. A disadvantage of is the x-ray and contrast agent exposure of the patient and examiner. The aim of this study was to clarify whether interventional closure of atrial septal defects is possible and safe when guided by transesophageal echocardiography (TEE) alone.

METHODS

This is a retrospective single centre study of all paediatric and adult patients who underwent percutaneous atrial septal defect (ASD) or persistent foramen ovale (PFO) closure without fluoroscopy between 1999 and 2016.

RESULTS

628 / 2214 (28%) patients were included with interventional ASD or PFO closure by transesophageal echocardiography (TEE) only. The rate of patients without fluoroscopy was low (8-32%) in the early decade (1999-2009) but has now increased to 40-60% in the last decade (2010-2016). Closure was performed with the Amplatzer® Septal Occluder (ASO) for ASD II or PFO Occluder (APO), Gore Cardioform PFO occluder, Ceraflex and Figulla Flex. Procedural success was 94% and the initial (day of intervention) closure rate was 92.3%. The complication rate and examination time were similar to the usual procedure with fluoroscopy. In only 49 / 2214 patients (2.2%) the procedure was switched from TEE alone to fluoroscopy due to difficulties in wire control or device positioning.

CONCLUSION

Percutaneous ASD or PFO closure can be safely and effectively performed in paediatric and adult patients without fluoroscopy and with transoesophageal echocardiography (TEE) only. Therefore, TEE-only guided closure of ASD and PFO should be considered for all patients thereby avoiding unnecessary radiation exposure, especially in the pediatric patient population.