P-190

Pericardial effusion related to transcatheter device closure of atrial septal defects

Deri A., Ballard G., English K. E., Oliver J., Thomson J. D. R.
Department of Congenital Heart Disease, Yorkshire Heart Centre, Leeds General Infirmary, Leeds, UK

Introduction: Cardiac perforation is an uncommon but important complication following transcatheter ASD occlusion. Device related erosion normally leads to a pericardial effusion. However the incidence of small pericardial effusions unrelated to perforation in this patient group is unreported. Aim of this study is to establish the incidence and behaviour of pericardial effusion both before and after device related ASD occlusion.

Methods: Retrospective review of echocardiograms (both pre and post closure up to 1 year follow-up) and clinical information on all patients >16 years (102 cases) undergoing trans-catheter ASD occlusion in a single institution from 2010-2014.

Results: 5/102 (4.9%, mean age 62.2 years) were found to have a rim of pericardial effusion post procedure that resolved in further follow up. 6/102 (5.9%, mean age 50.2 years) patients developed a small pericardial effusion following a device where there was none before: 2 of these resolved, 3 remained unchanged and one was smaller a year after the procedure. 9/102 (8.8%, mean age 41.7 years) patients had small pre-existing effusions prior to ASD occlusion detected on departmental echocardiograms. 2 of these 9 effusions resolved spontaneously following device closure within a year from the procedure, 4 remained unchanged and 2 got progressively smaller. In 1 patient with a pre-existing effusion, the effusion looked larger in the first three weeks after the device closure and afterwards decreased in size. In all of these cases these was no clinical or echocardiographic evidence of compromise. All cases were followed very carefully (weekly for the first month). In all patients there was significant and rapid reduction in right heart size. All patients were entirely asymptomatic except 2 who had non-specific symptoms that responded well to additional anti-inflammatories. All patients remain well until present.

Conclusions: Not all post device pericardial effusions are caused by cardiac perforation. Small pericardial effusions are a common finding prior to device closure of an ASD. In a proportion of cases these effusions can appear larger after device closure; this is presumably related to rapid reduction in right heart size. High quality echocardiography both prior to and after device closure is essential for monitoring these patients.