

10 REAL-WORLD EVIDENCE OF THE SAFETY OF PHARMACOLOGIC STRESS IN MYOCARDIAL PERFUSION IMAGING

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Introduction Myocardial perfusion imaging (MPI) is increasingly used as recommended by NICE for patients with a 30–60% estimated likelihood of coronary artery disease. We aimed to investigate the safety of drugs used in patients undergoing pharmacologic stress MPI.

Methods A 9-month (May 2015–Feb 2016) retrospective study to investigate the incidence of adverse effects (AE) in patients undergoing pharmacologic stress MPI. We employ standardised protocols (Tc-99m) using 4 agents: dipyridamole, regadenoson, adenosine and dobutamine. Clinical data including AEs were collected from cardiobase. Descriptive analysis and frequencies were calculated. AE in MPI were compared to those occurring in 50 patients who underwent conventional exercise tolerance testing (ETT) using chi-squared test.

Findings Of the 360 patients (mean age 67 years [SD 11]; 196 men, 164 women), who had pharmacologic stress agent administered, 166 (46%) became symptomatic: dyspnoea (24.7%), chest discomfort (12.8%), flushing (10%), chest pain (3.6%), cough (3.3%), nausea (2.8%), pain elsewhere (2.5%), dizziness (2.5%), vasovagal reaction (2.2%), wheeze (1.9%), headache (1.9%), vomiting (0.8%), abdominal discomfort (0.8%). The commonest symptom was chest discomfort for dobutamine but dyspnoea for all the other agents. Adenosine had the highest incidence of AE (76%). No significant complications were recorded that required hospital admission. When compared with ETT there was no significant difference of adverse effects (MPI 166/360 [44%], ETT 29/50 [58%]; $p=0.12$).

Conclusions This real-world data show that pharmacologic stress MPI is safe when clinical protocols are followed. Technician (physicist)-led testing could be an alternative in busy cardiac units where medical staffing are not always available.

11 ASCENDING AORTIC CALCIFICATION – DEFINING THE PORCELAIN AORTA

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Introduction ‘Porcelain aorta’ is listed in the 2nd consensus document of the Valve Academic Research Consortium as a risk factor in aortic valve replacement. However, the extent of circumferential involvement is poorly defined with great variability in reported incidence. We present a simple, reproducible classification to describe the extent of aortic calcification and thus appropriately define ‘porcelain aorta’, aiding clinical decision-making and registry data collection.

Methods 175 consecutive CT aortograms were reviewed. The aorta was divided into 3 sections: with and each section divided into quadrants. These were individually scored using a 5-point scale (0 – no calcification, 5 – complete contiguous calcification). Results for each quadrant were summated for each segment to provide an indication of the distribution of calcification.

Results Only one patient (0.6%) had a ‘true’ porcelain aorta, defined as contiguous calcification across all quadrants at any aortic level. Intra- and inter-observer variation was excellent for the ascending aorta ($K=0.85–0.88$ and $0.81–0.96$ respectively) whilst the inter-observer variation in the transverse arch was good at 0.75.

Conclusions Our data suggests the incidence of ‘true’ porcelain aorta may be significantly lower than reported in the literature. The predominance of calcification within the anterior wall of the proximal ascending aorta and the superior wall of the transverse arch may be clinically important. Application of this quick, simple and reproducible grading system, with no requirement for advanced software, may provide a tool to support accurate assessment of focal aortic calcification and its relationship to subsequent procedural risk.

12 LEFT CIRCUMFLEX ALCAPA IN SCIMITAR SYNDROME – AN UNDER-RECOGNISED ASSOCIATION?

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Introduction Scimitar syndrome is a well-known, but exceedingly rare condition, characterised by anomalous pulmonary venous return of all or part of the right lung to the IVC, normally in association with right lung hypoplasia, dextroposition of the heart and right pulmonary artery hypoplasia. Anomalous coronary anatomy is not, however, a well-described association. We reviewed the coronary anatomy of all patients diagnosed with scimitar syndrome, at a single institution, over a 24-year period.

Methods Retrospective review of medical records, cardiac imaging and operative notes of all patients diagnosed with scimitar syndrome at a single institution between 1992 and 2016.

Results 54 patients were identified. Within this cohort 3 patients (5.5%, 1 male, 2 female) had anomalous origin of the left circumflex coronary artery from the pulmonary artery (ALCAPA), all arising close to the pulmonary bifurcation.

Conclusions There are many common and uncommon variants of scimitar syndrome. The relatively high incidence (5.5%) of anomalous origin of the left circumflex coronary from the pulmonary artery is not well described and should be borne in mind when reviewing cross-sectional imaging of these patients, particularly during the neonatal period, when coronary anatomy is often particularly difficult to assess.