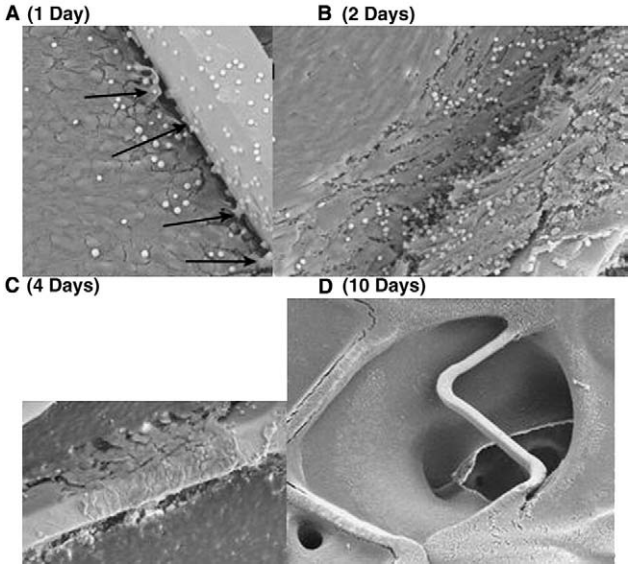

Fig. 1. (A) One day specimen with EC attaching to the stent strut (arrows) at the interface between the endothelium and the lateral strut surface. (B) Two-day specimen with EC mounting the lateral strut surface. (C) Four-day specimen with EC covering a portion of the strut. (D) Ten-day specimen with strut coverage except where the strut spans a side branch orifice.

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Percutaneous Valve Intervention

Cerebral microemboli during percutaneous mitral valvotomy for rheumatic mitral stenosis

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Background: Cerebral microemboli detected by transcranial Doppler (TCD) occur systematically during cardiac angiography and surgery but their clinical significance are yet to be determined during percutaneous balloon mitral valvotomy for rheumatic mitral stenosis.
Methods: We attempted percutaneous transvenous mitral commissurotomy (PTMC) in seven (18–60 years) patients with severe rheumatic mitral stenosis (five were females). An Inoue balloon catheter was employed (sizes 24–28 mm) in all cases. There was decrease in mean end diastolic mitral gradient (from 20.2±3 mm Hg to 2+/2 mm Hg) and increase in calculated mitral valve area from (0.7 +/− 0.6 to 1.9± 0.2 cm^2).One patient was in atrial fibrillation and no patient had severe mitral valve calcification. During and immediately after the procedure, all patients were monitored for cranial microemboli by a 2-MHz transcranial Doppler TCD probe, which was used to interrogate the right middle cerebral artery.
Results: Immediately after Inoue balloon inflation, single to multiple microemboli were detected in 5 patients. The interventions were uncomplicated and no patient developed cognitive alteration following the procedure.
Conclusion: The cranial microemboli observed during PTMC must have dislodged from the stenosed mitral leaflets during the process of commissurotomy by the Inoue balloon. The exact mechanism of PTMC is the splitting of the fused mitral leraflet commissures by inflation of the Inoue balloon across the mitral valve. These microemboli must have been solid. Microemboli have, not uncommonly, also been observed during percutaneous transluminal coronary angioplasty. These are considered gaseous and do not result in any neurological sequelae. All seven patients were discharged the next day in stable condition and did not experience any neurological sequelae. Further studies are necessary to determine the ramifications of silent brain injury if any following percutaneous balloon valvotomy for mitral stenosis.

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Probability of improvement in severe left ventricular systolic dysfunction following balloon aortic valvuloplasty for aortic stenosis

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Background: Patients with severe aortic stenosis (AS) and severe left ventricular dysfunction have a poor prognosis and are often refused surgical aortic valve replacement. Outcomes following balloon aortic valvuloplasty (BAV) in this subgroup of patients have not been well characterized.
Methods: Between June 03 and February 08, a total of 210 BAV procedures were performed at our institution, 19 of which had baseline left ventricular ejection fractions (LVEF) of ≤25%. These 19 patients were divided into two groups based on success of BAV. Group 1 included 12 patients (63%) who underwent successful BAV defined by increase in aortic valve area (AVA) ≥35% on predischarge echo. Group 2 included the remaining 7 unsuccessful BAV patients. Pre- and postoperative echocardiographic LVEFs were determined by averaging estimates of two independent and blinded reviewers.
Results: Combined procedural mortality was 0%. Medications, pre and post BAV, were not significantly different between groups. Improvement in LVEF was more likely following successful BAV, with 5 (42%) of 12 patients demonstrating postoperative LVEFs ≥30%, and (25%) 3 of 12, ≥40%. Only 1 (14%) of 7 patients following unsuccessful BAV demonstrated a LVEF ≥30%, none of which were ≥40%.
Conclusion: BAV in nonsurgical AS patients with LVEFs ≤25% can be performed safely. Successful BAV in this small series resulted in a strong trend toward greater improvement in LVEF but no significant improvement in 6-month survival.

Variable	Group 1, successful BAV (n=12) (mean±SD)	Group 2, unsuccessful BA (n=8) (mean±SD)	P
Age (years)	85.1±6.8	83.7±3.9	.63
Coronary artery disease, n (%)	8 (66.7)	3 (42.9)	.38
STS score	14±6.0	20±5.1	.29
ΔAVA (cm^2)	0.39±0.17	0.06±0.10	.002
Pre-BAV % LVEF	19.8±4.7	19.6±4.2	.95
Post-BAV % LVEF	30.8±12.3	23.9±1.8	.20
Δ% LVEF	11.3±12.0	4.6±7.8	.21
6-month mortality, n (%)	3 (25)	3 (42.9)	.62

STS, Society of Thoracic Surgeons.

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Assessment of paravalvular prosthetic mitral regurgitation with multi-modality imaging: procedural, inhospital, and follow-up results

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Background: Paravalvular mitral regurgitation is a complication of mitral valve replacement surgery. These patients often develop haemolytic anaemia requiring transfusions. Treatment of these is usually with a repeat surgical procedure; however, percutaneous device closure may be offered in cases with high surgical risk.
Methods: We retrospectively reviewed our institutional data on percutaneous mitral paravalvular leak closures over the last 2 years. Procedural, inhospital, and follow-up results were analysed.
Results: A total of six percutaneous paravalvular leak closures were performed. The primary interventionalist was the same in all cases (DW). The