shown fever (84.8%) and heart murmur (65.6%). Vegetation is the common ultrasound finding (84.8%). In 54.7% of cases, the vegetation size exceeded 10 mm. Other devastating effects were revealed such as leaflet perforation (13 cases), annular abscess (12 cases), fistula (three cases), mitral chordal rupture (10 cases) and dehiscence of prosthetic valve (11 cases). HF occurred most frequently on native valve (77.7 vs. 22.3% on prosthetic valve; \( P < 0.004 \)). Blood cultures were negative in 56.5%. Causative microorganisms were *Staphylococcus aureus* (35 patients), *Bartonella* spp. (11 patients) and *Coxiella burnetii* (2 patients). Mean duration of treatment was 40.7 ± 27 days (ranging from four and 180). Referral to surgery was more frequent in HF patients (75.7 vs. 27.5%; \( P < 0.0001 \)). Thirty-four patients died (34.3%) and early recurrence occurred in eight cases. When compared with patients without HF, aortic valve IE, multivite IE, prosthetic valve dehiscence or abscess were more frequently observed in HF patients. Mitral and aortic valve regurgitation, anemia and intracellular microorganism (*Bartonella, Coxliella*) were significantly associated with HF in patients with IE. The mean delay of consultation was longer (26.7 vs. 14.8 days; \( P = 0.013 \)). HF was independently predictive of in-hospital mortality [HR 3.87 (2.1—7.1); \( P = 0.0001 \)].

**Conclusion.**— HF is definitely the most powerful predictor of mortality in IE patients and indicates subsequently urgent surgery. Careful analysis of prognostic factors may improve the management of HF complicating IE.

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12 Longitudinal strain is afterload dependent in severe aortic stenosis

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**Background and aim.**— Alteration of left ventricular global longitudinal strain (GLS) has been found in patients with severe aortic stenosis and preserved left ventricular ejection fraction (LVEF), and interpreted as subtle changes in LV function. Usually, a cut-off of -15% is proposed for GLS. However, high afterload could also modify GLS, and this hypothesis has been less studied.

**Methods.**— Seventy-nine patients (mean age 75 ± 7) with severe aortic stenosis, preserved LVEF and normal coronary angiography were evaluated by echocardiography the day before and 5 days after valvular surgery. Echocardiography included valvuloarterial impedance (Zva), midwall fractional shortening (MFS) and LGS.

**Results.**— In the preoperative group (Pre), indexed aortic surface area was 0.38 ± 0.11 cm²/m², mean gradient was 63 ± 17 mmHg, LVEF was 70.9 ± 10%, MFS was 15.6 ± 3.1%, GLS was -16.1 ± 3.4% (measurable in 75 patients), Zva was 4.7 ± 1.4 mmHg/mL/m². In the postoperative group (Post), Zva was significantly lower (3.50 ± 0.68 mmHg/mL/m²; \( P < 0.0001 \)), while LVEF (72.1 ± 8.2%), MFS (16.2 ± 4.2%) and GLS (−15.3 ± 3.8%, measurable in 59 patients) were not statistically different. In preoperative patients, GLSpre and ZVapre were significantly correlated (\( r = -0.44; P < 0.0001 \), but not LVEFpre and ZVapre (\( r = -0.16; P = 0.1 \)) or MFSpre and ZVapre (\( r = -0.17; P = 0.12 \)). In postoperative patients GLSPost and ZVapost were significantly correlated (\( r = 0.37; P = 0.007 \)), as well as LVEFpost and ZVapost (\( r = -0.28; P = 0.04 \)). In preoperative patients GLS was low in 27 patients (−12.7 ± 1.8%) and normal in 48 patients (−17.9 ± 2.7%). Among the 56 patients with both measurable GLS pre and post, 23 had normal GLS pre and post (−18.5 ± 3.1% and −18.6 ± 2.8%, NS), 15 had low GLS pre and post (−12.3 ± 1.9% and −12.2 ± 1.9%, NS), seven with low GLS had normal GLS post (−13.8 ± 0.8% and −16.8 ± 0.9%, an increase of 22%), and 11 with normal GLS had low GLS post (−16.5 ± 1.7% and −12.1 ± 2.5%, a decrease of 27%).

Patients with low GLSpost (\( n = 28 \)) had significant higher ZVapre (5.3 ± 1.5 mmHg/mL/m²) and indexed LV mass (124 ± 32 g/m²) as compared to patients with normal GLSpost (ZVapre = 4.2 ± 1.0 mmHg/mL/m², \( P < 0.0001 \)); Indexed LVmass = 104 ± 23 g/m², \( P = 0.0001 \).

**Conclusions.**— In patients with isolated severe aortic stenosis and normal LVEF, GLS was found to be afterload dependant, both before and after surgery. One third of patients’ changed GLS category between pre and post surgery: improvement in 39% and degradation in 61% of them. However, those modifications do not necessary reflect a change in LV function, and parameters such as afterload indices and LV mass index should be taken into account for interpretation.

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13 Feasibility of percutaneous mitral commissurotomy in patients with commissural mitral valve calcifications

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**Background.**— Mitral valve calcifications, especially located in the commissural area, are often considered as a relative contraindication to percutaneous mitral commissurotomy (PMC). We sought to evaluate in a large series of patients with mitral stenosis (MS), PMC results according to the degree and location of mitral valve calcifications.

**Methods.**— Over a 3 years period, all consecutive patients who underwent a PMC at our institution were enrolled in the present study. Calcifications were assessed using transthoracic echocardiography and defined as bright areas with echocardiographic shadowing. According to the distribution of calcifications (within the valves leaflets’ or at the commissural level) and the degree of calcification (independently scored for each commissure from 0 to 3, 0 = absent, 1 = mild, 2 = moderate, 3 = severe), three groups were defined: group 1 = patients without leaflets’ or commissural calcifications, group 2 = patients with leaflets’ calcifications but no significant commissural calcifications and group 3 = patients with at least one calcified commissure of grade ≥ 2.

Patients with severe bilateral calcifications were considered not candidate for PMC. A good immediate PMC result was defined as a good valve opening (final valve area ≥ 1.5 cm²) with no mitral regurgitation > 2/4.

**Results.**— We enrolled 464 patients, 261 patients in group 1, 139 patients in group 2 and 64 patients in group 3. Compared to patients in group 1, patients in group 2 and 3 were older, presented more often in atrial fibrillation and with more severe MS. PMC success rate decreased from group 1 to 3. However, a complete opening of at least one commissure was achieved similarly in the 3 groups and in group 3 the calcified commissure could be totally split in 40%.

**Conclusion.**— In this large series of patients with MS we showed that:— a successful PMC is obtained less frequently in patients with calcified commissures but;
— a successful PMC can still be achieved in a large proportion of patients;
— the calcified commissure can be split in more than one third of patients.

Our results support the use of PMC as a first line treatment of patients with severe MS even in the presence of commissural calcifications if clinical characteristics are favorable.