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Warning:

Alcohol Before TMVR May Cause Serious Injury or Loss of Life

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We have a more cautious interpretation of the Wang et al. (1) retrospective report of pre-emptive transcatheter alcohol septal ablation to enable transcatheter mitral valve replacement (TMVR).

Their patients had a neo-left ventricular outflow tract (LVOT) at baseline between 0 and 200 mm², and so were ineligible for standalone TMVR due to risk of LVOT obstruction. Two patients (7%) died from this prophylactic procedure, and 5 (17%) required permanent pacemaker implantation. On follow-up, 10 (37%) still had a neo-LVOT under 200 mm². The investigators state that after alcohol septal ablation, TMVR was successfully performed in 100% of attempts. This is misleading. The only goal of alcohol septal ablation was to enlarge the LVOT to enable TMVR, and only 15 patients (50%) received TMVR without requiring percutaneous anterior mitral leaflet laceration (LAMPOON) or surgery.

Pre-emptive alcohol septal ablation is an important tool that is attractive in its simplicity. However, the technique is limited by mortality, morbidity related to pacing and left ventricular dyssynchrony and dysfunction, frequently small or mismatched septal perforator arteries, and in this case series, only a 50% success rate. Alternatives should be considered first, such as transatrial TMVR with anterior leaflet resection, and LAMPOON. The latter has been investigated in a prospective, independently adjudicated multicenter clinical trial (2). Contrary to what the investigators suggest, LAMPOON is feasible in severe anterior mitral leaflet calcification, and laceration was successful in 100% of subjects, with 93% having an LVOT gradient increase of <10 mm Hg from baseline.

There is a subset of patients with very small ventricles where the covered skirt of the transcatheter valve causes LVOT obstruction despite LAMPOON (3). In these patients, a percutaneous combination of pre-emptive alcohol septal ablation and LAMPOON, or surgical anterior leaflet resection and septal myectomy, may be considered. Implanting physicians should recognize the potential complications and risk of therapeutic failure associated with pre-emptive alcohol septal ablation in these patients who are often extremely sick.

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