

An Investigation of The Correct Size of Balloon for Percutaneous Transluminal Aortic Valvuloplasty.

<Background> The method in which to determine ideal balloon size for Percutaneous Transluminal Aortic Valvuloplasty (PTAV) has yet to be established. <Aim>To determine the ideal balloon size by comparing sizes predicted by enhanced CT and transesophageal echocardiography (TEE) . <Methods>In all patients, trans septum antegrade wiring and Inoue Balloon for aortic valve dilation was used. The left ventricular aortic tract area was determined by enhanced CT for one group of 8 patients (mean age 82 years, male/female 1/7) and the aortic valve annular diameter was determined by TEE for another group of 8 patients (mean age 82 years, male/female 3/5). Aortic valve area (AVA), maximum pressure gradient (max PG) and mean pressure gradient (mean PG) were compared using TTE before and after PTAV in both groups. <Results>The predicted balloon size was greater in CT measurements than TEE (mean 1.35mm). The CT group had significantly decreased max PG compared to the other group (max PG (mmHg): -28.1 ± 5.4 vs -8.3 ± 3.0 $<p0.01$). However, changes in AVA and mean PG were not significant. There were no reported complications. <Conclusion> Determining balloon size for PTAV using enhanced CT, predicted a greater balloon size than TEE. This significantly decreased max PG without causing any complications. Therefore, the use of enhanced CT in determining balloon size was found to be a safe and effective method for executing PTAV.