The percentage of pressure gradient recovery has increased to 61 ±14% (p<0.001), which is inversely correlated with aortic sino-tubular junction diameter and positively correlated with EOA (p<0.01, p<0.01, r=0.90). LV mass index regressed from pre-AVR (182±48 g/m²) towards normal level (126±31 g/m²), p<0.001.

Conclusions AVR not only significantly reduced aortic valve pressure gradient itself, but has doubled the proportion of pressure recovery. This resulted in continuously low prosthesis energy loss and satisfactory LVH regression. As the sino-tubular junction diameter significantly affects aortic valve energy loss, restoring normal root geometry should be considered as one of the objectives for aortic valve surgery.