Impact of Implantation Technique on Hemodynamic Results of the Pericarbon Freedom Stentless Valve

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Background
The Pericarbon Freedom stentless valve has proven excellent hemodynamic results in the midterm course. However, there exists no information, if a continuous or interrupted suture technique at the inflow site has an impact on postoperative hemodynamics.

Methods
139 patients were enrolled in a non randomized, prospective matched trial. In 68 patients an interrupted and in 71 a continuous suture line technique was used at the inflow site. Isolated valve replacement was performed in 70.4 % of the continuous and 67.6 % of the interrupted suture group. Pre- and postoperative hemodynamics and one year follow up were obtained by echocardiography and expressed as mean and peak gradients and grade of regurgitation. Results: No significant difference between continuous and interrupted suture techniques occurred with respect to mean (11.8 ± 6.3 vs. 12.5 ± 6.2 mmHg, p=0.251) and peak gradients (21.0 ± 9.6 vs. 22.0 ± 10.9 mmHg, p=0.292) as well as to the degree of regurgitation. Bypass and cross clamp time decreased 22.4 and 20.6 minutes with the use of the continuous suture technique. One year follow up showed a further, significant decrease of mean and peak gradients.

Conclusions
The Pericarbon Freedom™ stentless valve shows excellent postoperative performance. The technique of suture line at the inflow site does not result in hemodynamic differences.

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