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Endoscopic Cardiac Surgery - the reality!

We analyzed the results of mitral valve operations, either alone or in any combination with the tricuspid valve surgeries in the period from January 2001 till June 2004. The period was divided into two parts, classical sternotomy part (C) (110 patients) and minimally invasive port access part (PA) (105 patients). We were interested in the total hospital cost of both types of procedures and if there are any advantages of port access over classical sternotomy. The mean age was 61.2 ± 10.2 and 60.3 ± 12.4 (C versus PA) and mean additive Euroscore was 6.5 versus 4.8 (C versus PA). There were statistically significant differences ($P < .0001$) in cardiopulmonary bypass time (CPB) and aortic cross-clamp time (AXT) between both groups: CPB C versus PA: 98.3 ± 33.5 minutes versus 149.2 ± 44.2 minutes (mean \pm sd), AXT C versus PA: 62.9 ± 20.6 minutes versus 88.3 ± 26.8 minutes (mean \pm sd). There were no statistically significant differences in mortality and stroke (mortality $P = 1$, stroke $P = .53$). There were statistically significant differences in favor of the port access over the classical one for: intensive unit stay ($P = .004$), postoperative stay in days ($P < .0001$), blood transfusion ($P < .0001$), postoperative thoracic bleeding ($P < .0001$), and extubation time in hours ($P < .0001$). Furthermore, costs analyses showed that the average total patient cost was less for port access ($P < .0005$). The differences between endo and classical type suggested that the port access type of surgery is 20% cheaper than the classical one. We may conclude that port access surgery is an acceptable alternative to classical type of surgery, also in complex pathology of the mitral and tricuspid valve. A significant reduction of end diastolic and end systolic volumes and an increase in ejection fraction are observed early after surgery and maintained one year after with a marked and significant improvement in functional status. (NYHA from 3.0 ± 0.6 to 1.8 ± 0.5). Pts who benefit most from the intervention are those in worst clinical and hemodynamic conditions ($ESV \geq 80$ ml/m², $EF \leq 35\%$ and high functional class). Need for cardiac re-hospitalization was less than 10% per year and very few pts have cardioverter defibrillator implanted after surgery for ventricular arrhythmias. 10 years survival is $82 \pm 6\%$ with an excellent survival rate of $60 \pm 8\%$ at 5 years in pts with preoperative NYHA class IV.

Conclusions

Surgical volume reduction, as obtained by SVR, is an emerging, effective treatment strategy for pts with ischemic failing ventricles following myocardial infarction. Our 15 years experience allowed us to validate the results although there is a need for a randomized trial which is ongoing (STICH trial or Surgical Treatment for Ischemic Heart failure) and which will definitely demonstrate whether adding ventricular restoration to bypass surgery in pts with $\leq 35\%$ EF and ischemic heart failure will improve survival free of cardiac hospitalization at 3 years when compared



Prof. B. Gersak, MD, PhD