

PORT ACCESS CARDIAC SURGERY: ENDODIRECT VS PERIPHERAL CANNULATION.

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Objectives Minimally invasive cardiac surgery (MICS) has progressively gained interest but, sometimes, requires peripheral routes of arterial and venous cannulation. These ways may carry a good amount of vascular complications. Our objective is to review a single institution experience based over many cases of port access technique (PAT). **Materials and methods** Starting March 1997 to June 2005 we have performed 1734 MICS cases, of these 921 were done through a "J" ministernotomy, 813 cases were operated by means of PAT. At the beginning of PAT experience we used a standard femoral artero-venous cannulation, since 1999 we started using a direct transthoracic aortic cannulation (endodirect™ ED). Our cumulative experience is of 411 (50.5%) cases of ED (group A) and 402 (49.5%) of femoral artery cannulation (group B). Ages and main cardiac pathologies as valve disease, septal defects, cardiac tumors, left ventricular aneurysm and coronary atherosclerotic stenosis were homogeneously distributed among these two groups. Absolute contraindications to employ ED were: significant dilatation of the ascending aorta (> 40 mm), ascending aorta atherosclerosis (at transoesophageal echo), severe chest wall deformity and inability to maintain single lung ventilation. **Results** Surgical complications were in group A: posterior aortic wall perforation 1 case, purse string rupture requiring side-biting clamping and repair 1 case, late bleeding from purse-string requiring surgical revision in 2 cases (total: 4/411 cases, 0.9%); in group B: aortic dissection in 4 pts, double femoral artery cannulation in 10 pts, conversion to endodirect 6 pts, femoral artery thrombosis/dissection 4 pts, wound dehiscence 11 pts, lymphatic leakage 12 pts (total 47/402, 11%). Other differences were: balloon rupture 14/402 in group B, 4/411 in group A ($p < 0.05$); balloon malpositioning 45/402 in group B, 6/411 in group A ($p < 0.0001$), balloon migration 25/402 in group B, 0/411 in group A ($p < 0.0001$). Mortality procedure-related was seen only in group B (3 pts) because of intraoperative aortic dissection. **Conclusions.** In our experience ED technique is preferable and seems to appear safer than standard femoral cannulation but some peculiar surgical skills are mandatory in order to achieve a good level of safety.