

COMPARISON OF THE FLOW BETWEEN THE COMPOSITE ARTERIAL Y GRAFT AND LEFT INTERNAL THORACIC ARTERY TOGETHER WITH VENOUS GRAFTS USED TO THE LEFT CORONARY

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Objective: The superior results of coronary revascularisation with the left internal thoracic artery (ITA) have led to other techniques, which extend the arterial revascularisation procedures. It was suggested that the whole territory of the left coronary artery could be revascularised using the Y graft constructed with both ITAs. The aim of our study was to compare the capacity and the flow reserve of two methods of revascularisation of the left coronary artery

Methods: Group I (arterial Y graft - right ITA was anastomosed end-to-side to the left ITA) consist of 75 patients and group II (left ITA used for left anterior descending artery and venous graft used for other branches of the left coronary artery) consist of 48 patients. The mean age of the patients was $58,1 \pm 5,5$ years in group I and $60,3 \pm 5,1$ years in group II. The men/women ration was 66/9 and 39/9. The intraoperative flow measurement in the grafts was performed in following phases of the operation: (1) after completing the distal anastomoses with the aortic clamp in place (2) after removal of the aortic clamp and (3) before closing the sternum.

Results: The values of the flows are shown in the table.

	Group I			Group II		
	Left ITA	Right ITA	Y graft	Left ITA	Venous grafts	Total flow
1	65.1±37.8	57.7±30.2	115.2±40.9	46.7±29.4	156.7±94.2	196.7±89.0
2	37.9±25.3	28.9±18.9	70.3±33.5	26.5±17.5	89.0±67.0	115.4±57.9
3	27.3±15.9	25.2±18.4	51.8±24.5	26.4±16.1	72.5±45.5	96.8±41.1.

The flow reserve was similar in both groups (in group I 2,2-2,4 and in group II 1,8-2,2) even if the absolute flow value were different.

Conclusion: We documented that the cumulative flow in arterial Y graft is lower in comparison with conventional revascularization. It is due to the lower flow in the right ITA branch of Y graft compared to venous grafts. However based on clinical results, we can postulate that the flow in Y graft is sufficient to meet the demand of the myocardium originally supplied by left coronary artery. The both types of revascularisation provide sufficient flow reserve.

Acknowledgement: This work was supported by grant No NR 7791-3/2004 of IGA, Ministry of Health, Czech Republic