

## PAPERS AT THE END OF CARDIOLOGICAL TRAINING

# Coronarography – is it a necessity before vascular surgery?

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### INTRODUCTION

Patients undergoing surgical procedures have increased morbidity and mortality rates due to cardiovascular factors. The risk of developing perioperative complications depends on a combination of the following characteristics - the patient's clinical status before surgery, the presence of comorbidities and the complexity of the surgical procedure about to be performed.

### OBJECTIVE

To evaluate the prevalence of coronary lesions in patients submitted to vascular surgery and to correlate the coronary lesions with the severity of the vascular disease.

### MATERIALS AND METHODS

The study is a retrospective analysis of 976 patients consecutively admitted in the Vascular Surgery Department from the "Prof. Dr. C.C. Iliescu" Institute for Cardiovascular Diseases between 01.2012 and 03.2011, all of them undergoing either selective or emergency procedures. The study lot incorporated 52 patients (5.3%) who were submitted to a preoperative coronarography.

### RESULTS

For the lot of 52 patients who benefited from a preoperative coronarography:

- the mean age of the study lot was  $63 \pm 9$  years, 79% were male, 21% were female.
- 83% were symptomatic, presenting angina pectoris, the rest of 17% were asymptomatic, but presented the following characteristics: male  $60 \pm 6\%$ , three to five cardiovascular risk factors were pre-

sent, left ventricle ejection fraction (LVEF)  $47 \pm 6\%$ , Lee score 2, heart failure grade II-IV NYHA, old myocardial infarction.

- the prevalence for different cardiovascular risk factors was the following: dyslipidemia (100%), arterial hypertension (98%), smoking (81%), Diabetes mellitus (39%), obesity (39%), renal failure (20.7%).
- 9% of the patients had insignificant coronary disease, 31% presented single vessel disease, 25% had two-vessel disease, 25% had three-vessel disease and 10% presented left main disease.
- 52% of the patients included in the study lot underwent surgery for aorto-iliac disease, 36% presented peripheral arterial disease, 8% suffered from cerebro-vascular disease and 4% had an abdominal aorta aneurysm.
- the patients were divided into three subgroups: the first group (5 patients) with insignificant coronary lesions, the second group (29 patients) with single and two-vessel disease and the third group (18 patients) - three-vessel disease and left main disease.

The subgroup analysis revealed that the coronary heart disease risk factors (dyslipidemia, arterial hypertension, smoking, diabetes mellitus and obesity), the presence of chronic kidney disease or a personal history of cardiovascular diseases did not differ in a significant manner between the three groups.

The age of the patients was significantly higher in the third group compared to the ones in the first group and the Lee score was significantly higher in the second group, compared to the first group.

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## CONCLUSIONS

1. During a period of 15 months, 5% of the patients undergoing vascular surgery were evaluated by a preoperative coronarography.
2. The main rationale for requesting a coronarography was the presence of angina.
3. 90% of the patients suffering from peripheral arterial disease and an indication for preoperative coronarography presented significant coronary artery disease.
4. Age and the Lee score were the only significant factors differentiating the presence of negative prognostic lesions from the absence of such pathology.
5. Increased cardiac complication (13%) and mortality rates (6%) were registered 30 days after surgery.

**Conflicts of interests:** none.