

# ANGIOGRAPHIC CHARACTERISATION OF THE INTERNAL PUDENDAL ARTERY IN MALE PATIENTS WITH ACS: THE CAPISCA STUDY. (2013)

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**Aims:** To describe the angiographic profile of bilateral internal pudendal arteries, quantifying vascular lesions if present in patients admitted to hospital with an ACS. To estimate the prevalence of erectile dysfunction in patients with an ACS as the first clinical manifestation of coronary disease.

**Methods and results:** An observational prospective study was designed, with on-going recruitment of patients meeting the following inclusion criteria: males between  $\geq 18$  and 75 years old, ACS (defined as unstable angina with or without elevation of myocardial injury markers), invasive diagnostic strategy (by radial access) with coronary angiography demonstrating at least moderate coronary artery disease and written informed consent. Patients with chronic renal disease with a glomerular filtration rate  $< 30$  mL/min, chronic treatment with nitrates, penile anatomical abnormalities/trauma or previous aorto-femoral bypass surgery were excluded. Anamnesis, physical examination and basic complementary tests were obtained at admission. A coronary angiography with standard technique and catheters was performed, as well as percutaneous revascularisation if pertinent. With a 4 French 140 cm length catheter angiography of both internal pudendal arteries and measurement of vessel diameters and percentage of luminal stenosis were obtained. After the procedure, the questionnaire IIEF-5 was obtained from each patient to diagnose clinical erectile dysfunction. A total of 13 male patients, median age 55 years old (IQ 49,5-56), have been included so far. Interestingly, all of them were current (46%) or ex-smokers (54%). The prevalence of hypertension was 46% and the prevalence of dyslipidaemia was 38%. A third had chronic coronary artery disease (in all cases single vessel disease with percutaneous revascularisation). The prevalence of other manifestations of vascular disease was low (8%). A 46% of the patients had elevation of myocardial injury markers. In all of them ejection fraction was preserved. A high proportion of the patients (64%) were diagnosed of erectile dysfunction by the IIEF-5 test. After coronary angiography, the single vessel disease was the most prevalent (69%), treated in all cases with a DES. The right internal pudendal artery had an average diameter of  $2,6 \pm 0,7$  mm, an average % of stenosis of 39% and an average length of the lesion of  $17,2 \pm 12,2$  mm. The left internal pudendal artery had an average diameter of  $2,3 \pm 0,5$  mm, an average % of stenosis of 41% and an average length of the lesion of  $8 \pm 4,9$  mm. We found that up to half of the patients (55%) had  $\geq 30\%$  stenosis and almost a quarter (23%) had  $\geq 50\%$  stenosis in at least one of the internal pudendal arteries. None had  $\geq 70\%$  unilateral stenosis. A quarter of the patients (25%) had bilateral stenosis  $\geq 30\%$ . The prevalence of bilateral stenosis  $\geq 50\%$  was low (8%).

Conclusions: The prevalence of moderate angiographic disease of unilateral internal pudendal arteries (stenosis  $\geq 30\%$ ) is high in the studied population. However, significant unilateral disease (stenosis  $\geq 70\%$ ) and significant bilateral disease (stenosis  $\geq 50\%$ ) are not frequent. There is a high proportion of patients who have suffered a ACS as a first manifestation of coronary artery disease, diagnosed at the same time of previous erectile dysfunction. In consequence, erectile dysfunction could be an early predictor of ACS.

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