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Infective endocarditis requiring surgical intervention: safety and therapeutic impact of preoperative coronary angiography

Authors:
C Laperche¹, O Lairez¹, M Elbaz¹, D Carrie¹, M Galinier¹, B Marcheix¹, M Gautier¹, G Robin¹, F Bouisset¹,
¹Toulouse Rangueil University Hospital (CHU) - Toulouse - France,

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Introduction : Preoperative coronary angiography (CA) cannot be performed systematically in patients with infective endocarditis requiring surgical treatment due to a high risk of embolization, in cases of aortic endocarditis, or when abscesses or vegetations are present.

Purpose : The aim of this study is to assess the safety and the therapeutic impact of preoperative coronary angiography in infective endocarditis requiring surgery.

Methods : This monocentric, observational study included patients with infective endocarditis requiring surgical treatment who were hospitalized between March 2013 and December 2016 in our Hospital. The outcome were i) the occurrence of post-CA complications, such as neurological embolization, acute kidney failure requiring post-operative dialysis, or ii) necessity for surgical myocardial revascularization, and the mortality at 28 days and one year.

Results : 193 patients were included among which 178 were effectively operated on. 119 patients had an aortic endocarditis with an aortic vegetation for 74 patients. Invasive coronary angiography was performed in 142 patients (91.6% by radial approach), and 14 patients were evaluated by coronary tomodensitometry (one patient had exploration with both techniques).
CA was carried out regardless of the location of the endocarditis, whether it was aortic or not (p=0.39), and regardless of the existence of abscesses and/ or adenoids (p=0.09), even in case of emergency surgery (p=0.79). Among the 178 patients operated on, 35 had significant coronary lesion(s) and 25 underwent an associated artery bypass graft.
Neurological embolization occurred after angiography in only 2 patients with mitral endocarditis, and none was observed in patients with aortic endocarditis. Acute renal failure after CA was observed in 15 (10.6%) patients. Surgery was performed in 173 patients, and 25 of them had a myocardial revascularization. No increase in post-operative dialysis rate was observed (p=0.43) and there were no differences in the mortality rates, neither at 28 days (p=0.77) nor at 12 months following surgery (p=0.59).

Conclusion : Preoperative CA was not associated with a higher occurrence of complications, such as embolization or post-operative acute kidney failure, and did not decrease post-operative mortality in infective endocarditis (aortic or not) requiring surgery.