De novo atrial fibrillation following aortic valve replacement surgery is associated with decreased creatinine clearance and increased C-reactive protein levels

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Aim: The aim of our study was to establish predictors of unplanned early reoperations after meningioma removal.

Introduction: Complications after neurosurgical procedures which lead to reoperation are associated with poor treatment outcome and costs. The knowledge of risk factors for complications might allow to implement specific preventive measures. However those factor are still poorly defined, especially in terms of benign brain tumours.

Methods: We retrospectively analysed 177 patients, with histologically confirmed meningiomas, hospitalized between 2014 and 2016 who underwent craniotomy. From medical records collected.

The incidence of POAF in the 173 included patients was 45%, with the median time of occurrence being 2.4 ± 1.5 days. A univariate analysis showed that the group of patients who developed POAF was older (p = 0.028), had longer median in-hospital stay (p = 0.008), had a significantly higher C-reactive protein (CRP) peak blood level (p = 0.025) and a significantly lower minimum creatinine clearance (p = 0.026) in the post-operative period when compared with those who did not develop POAF. A multivariate analysis confirmed age to be an independent predictor of POAF. (OR: 1.044, CI 95%: 1.00–1.09).

Conclusion: Our study suggests age, peak post-operative blood level of CRP and creatinine clearance as predictors of POAF occurrence and supports the hypothesis that POAF may be the result of inflammation, being one of the few studies that focuses on a population with isolated aortic stenosis. Our findings on increased hospital stay reinforce the idea of risk stratification and the use preventive measures in the higher risk groups.