

## PERICARDIAL EFFUSION FOLLOWING CARDIAC SURGERY: ANALYSIS OF A 5 YEAR PERIOD.

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**Objectives:** Pericardial effusion (PE) following cardiac surgery is a feared complication. This study was aimed at analyzing all treatment-requiring postoperative PE cases during a 5 year period from 1998-2003, focusing on PE incidence and relation to the type of surgery. The study was also aimed at analyzing whether the introduction of newer anticoagulants (e.g clopidogrel) had an effect on the incidence of PE.

**Materials and methods:** 7786 cardiac cases were performed between 1998 and 2003. In total, 167 patients were identified as having been treated for postoperative PE, and their medical charts were reviewed retrospectively for data collection.

**Results:** Overall incidence PE was 2,14% and did not change significantly over the 5 year period. CABG surgery had significantly lower incidence of PE (1,26%) compared with isolated valve surgery (incidence 5,14%), and aortic valve surgery (incidence 3,24%) was associated with lower incidence compared to mitral valve surgery (incidence 6,11%). Combined CABG and valve surgery was associated with a similar increase in the incidence of PE. Overall, valve surgery was found to have an odds ratio of 4,28 ( $p < 0,001$ ) in favor of developing PE compared to non-valve surgery.

No other procedures carried similar risks.

Substratification analysis showed that mitral valve plastic and ring type operations carried a significantly higher risk of PE (incidence 9,27%) compared with overall mitral valve surgery (incidence 6,11%).

No correlation between PE and potential risk factors such as diabetes, earlier heart surgery, renal insufficiency and use of newer anticoagulants (e.g clopidogrel) could be found. Maximum international normalized ratio (INR) between the primary operation and PE treatment was median 3,3 (standard deviation 1,63) for the valve surgery group.

**Conclusions:** Overall PE incidence has not risen over the 5 year observation period and the increased use of newer anticoagulants, such as clopidogrel, does not appear to have an effect on the incidence of PE.

Valve surgery appears to be associated with increased risk of PE, perhaps due to added use of anticoagulants postoperatively. Surprisingly, mitral valve plastic and ring type operations carry a significantly higher risk of developing PE than other types of surgery. The reason for this remains unclear.