

Pancreatic Stone Protein (PSP) correlates with the clinical severity of patients underwent heart transplantation and cardiac surgery

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Introduction

Given the critical nature of heart transplant recipients and cardiac surgery patients, early and accurate detection of sepsis is crucial for improving outcomes. Since traditional inflammation markers like C-reactive protein (CRP) and procalcitonin (PCT) are commonly used but may have limitations in specificity or sensitivity, assessing PSP as a potential biomarker for sepsis is especially relevant.

Methods

A total of 33 patients were enrolled, of whom 6 underwent heart transplantation (TRAP group) and 27 underwent cardiac surgery (NTRP group). Patient data were collected according to the following Timeline: Preoperative data; During surgery; On the first postoperative day; Every three days thereafter (fourth, seventh, tenth day); At delivery.

Results

Figure 1 shows in the TRAP group a positive correlation ($r=0.7$) statistically significant ($p=0.0005$) between the PSP and the SOFA values, so it can be reasonably assumed that an increase in the PSP corresponds to an increase in the SOFA score. In the NTRP group this correlation remains positive and statistically significant, maintaining the same statements made in transplant recipients. The threshold in our population is 91 ng/mL, which means starting from a PSP level greater than or equal to 92 ng/mL, in our population it is more likely to have a patient who develops sepsis later. The AUC is 0.73. This difference between the cut-offs usually observed (approximately equal to 200 ng/mL) and the one we identified could be explained by the complexity of cardiac surgery.

Conclusion

Pancreatic Stone Protein (PSP) can be defined as a promising early marker of sepsis whose dosage is made easily accessible by the AbioSCOPE Point of Care measurement method. Given that SOFA is one of the most widely used scores to monitor the progress of the disease, this can lead us to intuit that PSP correlates with the clinical severity of the patient.

Figure 1 – Correlation between the PSP and the SOFA values in patients underwent heart transplantation and cardiac surgery

