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## ABSTRACT PREVIEW

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### USE OF STEEL BANDS IN STERNOTOMY CLOSURE : EVALUATION OF MEDIASTINITIS AND STERNAL DEHISCENCE

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#### INTRODUCTION

Sternotomy healing complications occur in 0.5-6% of the surgical cardiac population. It could increase up to 15% in patients with high risk factors. If mediastinitis is present, as an additional complication, the mortality rate increases around to 14-50%.

#### MATERIALS AND METHODS

From January 2005 to June 2008 a prospective, descriptive and comparative study was designed to evaluate the frequency of sternal dehiscence and mediastinitis after sternal closure with steel bands (sternumband®) (group A) compared to conventional closure with simple sternal wires (group B). The study was done in a cohort of high risk cardiac surgical patients.

Inclusion criteria was at least one of the follow : COPD, BMI > 29 Kg/m2, age > 70, Chronic Renal Failure, Diabetes, poor bone quality.

The end point of the study was evaluate if the type of sternal closure (A vs B) was associated with the appearance of these complications.

#### RESULTS

712 patients evaluate, 356 were included in each arm. 60% men. Mean age 69 years. 75% with at least 2 risk factors. Coronary artery disease was present in 64%. In the total population sternal dehiscence was present in 3.8% and mediastinitis in 2.5%. No secondary complications because of the steel bands were found.

The bivariate analysis demonstrated a statistically significant higher frequency of sternal dehiscence and mediastinitis associated to conventional sternal closure compare to steel band closure. P value 0.02.

Risks factor associated with sternal dehiscence were greater BMI (p=0.006), COPD and Mediastinitis (p=0.000). Risks factors for mediastinitis were greater BMI (p=0.002), poor bone quality and Sternal dehiscence (p=0.000).

#### CONCLUSIONS

The use of steel bands to closure the sternum of high risk cardiac surgical patients is associated with a statistically significant decrease in Mediastinitis and Sternal Dehiscence.

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#### Thematic Areas

Thematic area #1:  
1.5 - Postoperative Management

#### Preferred Type of Presentation

Oral

#### Keywords

STERNOTOMY MEDIASTINITIS DEHISCENCE