

OBESE CARDIAC PATIENTS: SIGNIFICANT REDUCTION OF DEEP STERNAL WOUND COMPLICATIONS BY WEARING THE POSTHORAX™ VEST?

Buschmann K.¹, Bienias J.¹, Brendel L.¹, Halbroth I.¹, Ghazy A.¹, Karliova I.¹, Emrich A.L.¹, Vahl C.F.¹

¹Universitätsmedizin Mainz, Herz-, Thorax-, Gefäßchirurgie, Mainz, Germany

Objectives:

Sternal wound healing disturbances are still a frequently postoperative complication after median sternotomy especially in obese patients. Surgical wound revision and prolonged hospitalization increase the costs disproportionately. Thus we planned a study to evaluate if the sternal wound complication rate after cardiac surgery can be profitably reduced by wearing the Posthorax™ vest.

Methods: The Study started in 08/2014 until 07/2015. All 129 elective obese patients (BMI > 30kg/m²) scheduled for cardiac surgery were preoperatively adapted with a vest. If the patient did not wear strictly the vest, he was eliminated from the study. The Outcome in the Vest group was compared to a Control group of similar 131 patients from 07/2013 until 12/2013. Group differences were tested by exact Fisher test and T-test (SPSS 23).

Results:

Deep sternal wound complication rate was 4.7% (6/129) in the Vest group compared to the Control group with 10.7% (14/131).

The Vest and Control group were matchable in BMI (34kg/m²) and age (65yrs), operation time (195 minutes) and time on respirator. The Vest group had a significant shorter stay on ICU and showed significant earlier mobilization than the Control group ($p < 0.0001$).

Conclusion:

The rate of deep sternal wound complication in the Vest group tells its own tale. There is a reduction of half as less. As limitation we have to ask if the Vest group is comparable to the Control group because of significant shorter ICU stay and earlier mobilization, but otherwise these factors belong to postoperative course without complications. Of course the surgical technique for wound closing is also important and dependent on the surgeon. Nevertheless in our clinic we apply the Posthorax vest in every obese patient who has to undergo cardiac surgery via median sternotomy in order to reduce postoperative deep sternal wound complications and costs.

