

ORAL PRESENTATION

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A unique case of fractured titanium implant after sternal resection

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Background

Rigid reconstruction of the chest wall after sternal resection is needed for protection of the heart and to ensure effective breathing. A variety of surgical techniques are used to restore the integrity of the chest wall. For the last years the titanium implants “Ley™ prosthesis”, Geister® , Germany are widely used for such purpose.

Clinical case

A partial resection of the sternum was performed on a 48 year old female patient with benign sternal tumor. The middle third of the sternum and the adjacent parts of left and right third ribs were resected. Reconstruction of the postoperative 7/6 cm. bone defect was achieved using titanium implant “Ley™ prosthesis”, Geister®, Germany. 5 years after surgery the patient complained of severe pain in the region of intervention. On the X-ray study were seen 4 fractures of the titanium implant and in 3 of the 4 surgical steel sutures. After a discussion with representatives of Geister® it was clear that this is the only case with fractured titanium “Ley™ prosthesis” implant of about 500 already implanted across Europe.

Surgery was performed on 08.11.2012, and all titanium fragments were removed. The patient was discharged in good condition and without pain.

Conclusions

Fracture of such implant is a unique precedent in thoracic surgery. We still do not have the results of X-ray scattering analysis and the conclusions of Geister®, Germany. As there is no reason to question the quality of the implant the most probable reason for the fracture seems to be metal fatigue as a result of the numerous respiratory movements.

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