

The NUSS-Operation for Correction of Pectus Excavatum: First experience in Iceland.

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Objective: Pectus excavatum is the most common chest deformity, appearing in 1:1000 children with a 4 to 1 male:female ratio. Traditionally surgical correction of pectus excavatum is obtained with reconstruction of the anterior thoracic wall, including osteotomy and resection of costal cartilages, using wire or moldable metal bar. These procedures are invasive for the patient, take long and convalescence is often prolonged. A less invasive approach is using a silicone-implant to fill up the defect, however, cosmetic results with implants are often not satisfactory. The Nuss Operation was first described 16 years ago by Dr. Donald Nuss. The operation has been developed further, involving a minimal invasive approach. In Iceland the Nuss-operation has been performed for 3 years for patients with pectus excavatum. Here we describe our first experience.

Material and methods: This is a retrospective study including all patients operated for pectus excavatum in Iceland from February 2004 to March 2006. Patient information was gained from medical charts and operation files. Preop workup included chest X-ray & CT, EKG and pulmonary function test. Patient demographics, indications for surgery and complications were registered. The cosmetic results were evaluated by both the patient and operating surgeon on a scale from 1 to 5 (=excellent).

Results: A total of 14 patients were operated on, 13 males and 1 female with an average age of 18.4 yrs. (range 14-27). All the patients were operated on for cosmetic reasons. One patient had Marfan's syndrome, another had severe thoracal scoliosis and the third patient kyphosis. The average operation time was 68 min. (range 40-110). There were no intraoperative complications and all the patients survived surgery. Median length of stay was 9 days (range 7 – 10). There were no major postoperative complications. Two patients had superficial skin infections that resolved with antibiotics and two patients had pneumothorax. One of the latter patients was readmitted and operated on with a thoracosopic wedge resection of left apical emphysema bullae. Cosmetic results at 2 weeks follow-up were evaluated as excellent in 10 cases (71%) and good (score 4) in 4 cases (29%).

Conclusion: The Nuss-operation is a safe and fast operation. Complications and scars are minimal and the cosmetic results are most often excellent. We consider the Nuss operation a feasible alternative for surgical correction of pectus excavatum.