

5. CHEST MALFORMATIONS IN CHILDREN. LITERATURE REVIEW.

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Introduction. Chest malformations in children (CMC) can be divided into two types - primary, also called congenital, have a multifactorial etiology, and secondary or acquired: (post-traumatic), iatrogenic and syndromal (due to Marfan syndrome, Ehlers-Danlos syndrome, etc.), all together appear, according to various authors, in 2-7% of the population. Congenital malformations of the chest wall can be classified into common entities such as pectus excavatum (PE) representing 90% and pectus carinatum (PC) - 7%, and rare entities such as sternum cleft, asphyxiating thoracic dystrophy (Jeune syndrome), Poland syndrome and spondylothoracic dysplasia (Jarcho-Levin syndrome), accounting for 3-4% of all cases. Cosmetic defects are the most common causes of referral to a doctor, and in more severe forms there are pathological changes in the cardiovascular and respiratory system, which serve as indications for thoracoplasty.

Aim of study. To provide an overview of current diagnostic and surgical treatment of minimally invasive thoracoplasty.

Methods and materials. We selected the articles published in the period 2016-2021, from the PubMed database, HINARI, according to the following keywords: "Chest wall deformities", "Pectus Excavatum", "Pectus Carinatum", "Procedure Nuss", "Abramson technique".

Results. For preoperative evaluation of the manners of CMC surgery, Rx thoracic, thoracic CT scan, electrocardiograph and color Doppler echocardiography are deemed mandatory by nearly all of the responders, with a proportion of 89-98%, A pulmonary function test is considered to be necessary by 54.12% of the surveyed cohort. Referring to the indications of surgery for PE, a Haller index of >3.25 of thoracic CT scan. Restricted pulmonary ventilation disorder, abnormal in ECG and accompanied with mitral valve prolapse are agreed as indications of surgery. Severe deformity and ongoing deterioration of deformity and severe social-psychological problems from deformity and cosmetic requests. Minimally invasive repair of pectus excavatum using the Procedure Nuss, is the most common and preferred operative correction of pectus excavatum. Variations in intraoperative techniques included sternal elevator (SE) use, the number of bars placed behind the sternum and the use of bilateral stabilization sutures. Minimally invasive repair of pectus carinatum using the Abramson technique using a pectus bar that is placed anteriorly to the sternum. The procedure is less invasive and less risky than a pectus bar inserted for pectus excavatum, but the lateral fixation of the pectus bar in the Abramson procedure remains a challenge.

Conclusion. Placement of multiple bars and SE use are associated with significantly higher odds of certain complications. Minimally invasive repair of PE and PC the patient is discharged usually between the fifth and seventh postoperative day and is seen in the outpatient clinic after 2 weeks, 6 weeks, 3 months, 6 months, and 12 months, with very good results.