The influence of right anterolateral thoracotomy in prepubescent female patients on late breast development and on the incidence of scoliosis.

BACKGROUND: It is assumed that a right anterolateral thoracotomy for correction of simple congenital cardiac defects (ie, atrial septal defect) achieves more favorable cosmetic results than a standard median sternotomy. METHODS: Ninety-five patients, 72 with right anterolateral thoracotomy and 23 with median sternotomy, who had corrective transatrial operations when they were younger than 12 years of age were contacted by questionnaire. The mean follow-up time was 23.1 years. Of these, 61 patients (46 thoracotomy and 15 sternotomy) were investigated clinically. Volume differences of the breasts were measured by 3-dimensional surface scanning. By using photographs of the upper chest, breast symmetry was described by an index. The degree of scoliosis was measured by clinical examination. RESULTS: According to the questionnaire analysis, 76% (thoracotomy group) versus 39% (sternotomy group) thought that the cosmetic result was excellent (P = .008). Breast volume measurement showed a volume difference greater than 20% (left side larger than right) in 55% (thoracotomy) versus 0% (sternotomy). With our index, asymmetry in the lower part of the right breast occurred in 61% (thoracotomy) versus 0% (sternotomy; P<.001). A total of 6.6% of the patients had scoliosis, without any differences between groups. CONCLUSIONS:
Because our long-term follow-up in prepubescent female patients after right anterolateral thoracotomy revealed significantly impaired unilateral breast development, we propose to abandon right anterolateral thoracotomy in this subgroup of patients, although the subjective satisfaction with the cosmetic result was high. To avoid potential damage of future breast tissue, other surgical approaches, such as right posterior thoracotomy, should be considered. According to the orthopedic investigation, the surgical approach does not cause a higher rate of scoliosis.