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What is the Appropriate Timing for bar Removal After the Nuss Repair for Pectus Excavatum?

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ARTICLE INFO

Article history:
Received 2 April 2022
Received in revised form
7 December 2022
Accepted 24 December 2022
Available online xxx

Keywords:
Bar removal
Nuss procedure
Pectus excavatum
Surgical repair

ABSTRACT

Introduction: The Nuss procedure for pectus excavatum requires that the sternal elevation be maintained by indwelling metal bars that are traditionally removed approximately 3 y after the repair.

Methods: A retrospective cohort study was conducted of all patients who underwent primary Nuss repair from 2007 to 2018 in two institutions and had a follow-up of at least 24 mo. Pectus bars had been left in place beyond 3 y in patients concerned over possible recurrence after bar removal. Structured interviews were held to assess pain, chest tightness, or other discomfort, and any adverse events related to pectus bars. Results were compared between patients in whom pectus bars were removed after 3 y (standard group) and those in whom bars were left in place longer (extended bar duration group).

Results: Two hundred and thirty-one patients (91% males, mean age 23.9 ± 8.3, mean Haller index 4.9 ± 2.3) were included. Bar duration was 30.6 ± 6.6 mo in the standard group (51 patients) *versus* 69.1 ± 26.3 mo in the extended group (180 patients). Some discomfort was reported by 81.6% in the standard group *versus* 62.9% in the extended group ($P = 0.033$), and discomfort occurring at least monthly or more often was only reported by 30% in the standard *versus* 30.3% in the extended group ($P = 1.000$). Quality of life improved in 92.6% of the standard group *versus* 94.7% of the extended group ($P = 1.000$). No significant adverse events were reported in either group.

Conclusions: Our data suggest that an extended bar duration after the Nuss repair may not cause any adverse event nor negatively affect quality of life.

Introduction

Pectus excavatum is the most common congenital deformity of the anterior chest wall and may have detrimental effects on quality of life.[1] The impact of pectus excavatum on cardiorespiratory function has long been debated, as conventional tests often fail to demonstrate any abnormality,[2] and many patients are completely asymptomatic. Nonetheless, signs of cardiovascular derangement may be demonstrated through special techniques,[3] and the Nuss repair has

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0022-4804/$ — see front matter © 2022 Elsevier Inc. All rights reserved.
https://doi.org/10.1016/j.jss.2022.12.029