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Bar Removal Following Minimally Invasive Pectus Excavatum Repair – Does Removal at 2 Years Affect Recurrence or Satisfaction Rates?

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Introduction

- Pectus excavatum is the most common congenital chest wall deformity.
- During minimally invasive pectus excavatum repair (MIRPE), a bar is placed to correct the deformity.
- The bar normally stays in place for 3 years.
- Little is known about recurrence or cosmetic satisfaction when the bar is removed early.

Aim

- Review patients who underwent bar removal less than 3 years after placement:
  - Recurrence Rate
  - Patient Satisfaction

Methods

- Retrospective Review with Prospective Follow-up
- Inclusion Criteria:
  - MIRPE between October 2006 – June 2017
  - Had bar removed < 3 years after placement
- Telephone Follow-up
  - Residual Deformity
  - Cosmetic Satisfaction

Results

44 patients included
Haller Index: 4.0 (IQR 3.5, 4.5)
Median time at bar placement: 13.3 years
Median time to bar removal: 2.1 years

Reasons for Early Bar Removal

- No Reason Identified/Doing Well: 4.5%
- Over-correction: 4.5%
- Leaving Parents' Home: 6.7%
- Other: 11.4%
- Infection: 16.0%
- Costal Cartilage Resection: 38.6%

Post-operative Outcomes

- Recurrent Deformity: 2
- Required Bracing: 1
- Required Redo Repair: 1
- Bracing for Pectus Carinatum: 1
- Costal Cartilage Resection: 3
- Scar Revision: 1

Telephone Surveys (n=17):
* Median follow-up: 9 years
* 9 patients (53%) noted residual deformity
  * 2 thought deformity was >25% of chest
  * 1 sought re-evaluation (bracing)

Patient Satisfaction Rates

- Very Satisfied: 41%
- Somewhat Satisfied: 59%
- Not Satisfied: 0%

Conclusion

- Early bar removal does not increase recurrence rates requiring surgical intervention and maintains good patient cosmetic satisfaction.
- More long-term follow-up information for all pectus patients is warranted.