

A REVIEW OF CHEST WALL ANOMALIES IN SCOTLAND - THE GLASGOW EXPERIENCE

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Aim: A move from cardiothoracic to general surgeons performing surgery to correct chest wall anomalies in our institution has resulted in increased referrals. As the service has recently received national designation, this offered the opportunity to review experience to date.

Methods: The authors interrogated a prospective local database of chest wall referrals to general paediatric surgery (1999-2016).

Results: 344 persons were referred for assessment in the study period (81% male). 39% (133) had pectus excavatum. 53% (183) had pectus carinatum. 8% (27) had complex defects. 74% of pectus excavatum and 29% carinatum defects were symmetrical. Where asymmetrical, there was a bias towards right side for both conditions. Details of severity and laterality are in Table 1. Significant scoliosis was noted in 10% excavatum cases and 7% in carinatum. Marfan's was confirmed in 2% (6). 49 patients have undergone surgery; all were had moderate or severe defects. 37 patients had a Nuss operation for pectus excavatum (32 thoracoscopic assisted). Dynamic bracing was offered as first line therapy for pectus carinatum: Of those braced, 23% had full correction, 53% are ongoing, 8% opted for surgery, 4% discontinued treatment and 12% were lost to follow-up. 12 patients underwent surgery for pectus carinatum using a modified Ravitch technique; 5 using the Stratos™ system and 7 using the Sternalock™ system. There were 22 complications. 4 late Stratos™ system failures were identified. One deep Nuss bar infection was successfully managed with long-term antibiotics. One patient became opiate dependent. 7 superficial wound infections and 3 hypertrophic scars occurred following Nuss operations.

Conclusion: This series demonstrates the need for a multidisciplinary service that offers operative and non-operative options for young persons with chest wall deformities. Surgery should be reserved for moderate to severe defects and dynamic bracing is first line treatment for pectus carinatum.

Table 1

	Excavatum	Carinatum	Complex
Severity			
Very mild/Mild	22% (30)	38% (70)	33% (9)
Mild/Moderate	7% (9)	12% (22)	22% (6)
Moderate	31% (41)	21% (39)	11% (3)
Moderate/Severe	13% (17)	12% (21)	11% (3)
Severe	17% (23)	9% (17)	8% (2)
Not classified	10% (14)	8% (14)	15% (4)
Laterality			
Symmetrical	74% (99)	29% (53)	11% (3)
Asymmetrical (L only)	N/A	11% (21)	11% (3)
Asymmetrical (L > R)	4% (6)	12% (22)	15% (4)
Asymmetrical (R only)	N/A	25% (46)	26% (7)
Asymmetrical (R > L)	10% (13)	14% (25)	22% (6)
Not classified	12% (15)	9% (16)	15% (4)