An integrated multidisciplinary team approach to the management of vascular anomalies: challenges and benefits

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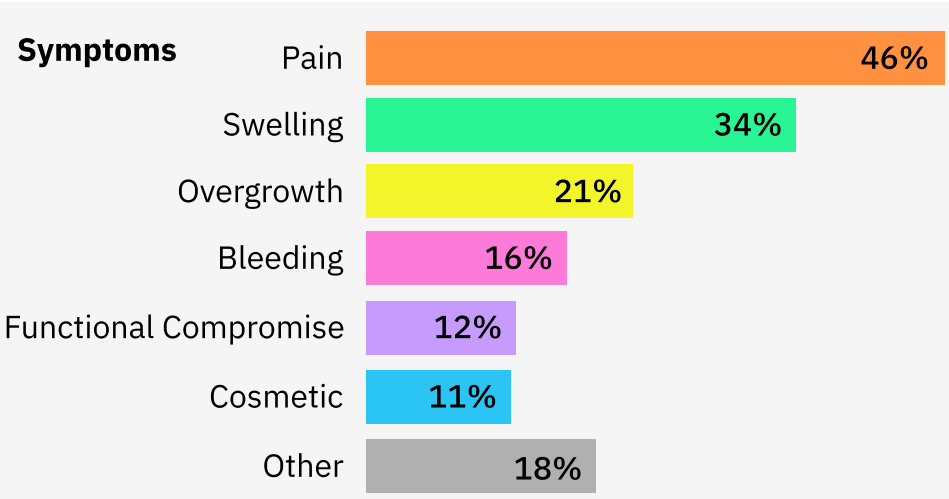
BACKGROUND

Vascular anomalies comprise highly variable pathophysiology and commonly pose diagnostic and management dilemmas. The International Society for the Study of Vascular Anomalies (ISSVA) classifies vascular anomalies into vascular malformations and vascular tumours. Consequently, patients often benefit from input from a wide range of specialists; including orthopaedic surgeons.

This study describes the inception of a multidisciplinary team (MDT) Vascular Anomaly Clinic (VAC) in a tertiary paediatric centre, and the subsequent experience managing this complex patient group.



METHODS

This was a retrospective study of paediatric patients (age <18 years) attending a MDT VAC from its inception in 2012 until 2019 (n=133). Patient demographics, presentation, investigations, diagnosis and treatment were reviewed.

RESULTS

Median age of patients was 9.8 years. Vascular malformations were the most common diagnosis (88%), with venous malformations predominating (27%). Lesions were predominantly located on the lower limbs (38%), upper limbs (19%) and head and neck (16%). Ultrasound (85%) and MRI (71%) were frequently utilised.

Management	n	%
Surgery	37	28%
Excision	26	20%
Debulking	11	8%
Amputation	2	2%
Epiphysiodesis	2	2%
Sclerotherapy	35	26%
Compression Garments	31	23%
Pharmacotherapy	20	15%
Laser Therapy	20	15%
Embolization	6	5%

The role of the VAC MDT specialists

Specialist	Role
Plastic Surgeon	Biopsy Removal of lesions Complex reconstructions
Interventional Radiologist	Real-time duplex ultrasound in clinic Interpretation of imaging Digital Subtraction Angiography Biopsy Embolization Sclerotherapy
Dermatologist	Diagnosis and classification Laser
Orthopaedic Surgeon	Biopsy and removal of lesions Skeletal deformity correction
Vascular Surgeon	Biopsy and removal of lesions Venous ablation
Otolaryngology Head and Neck surgeon, Craniofacial surgeon, Ophthamologist	Biopsy and removal of lesions of the head and neck Complex airway management Endoscopy
Clinical research scientist	Data collection/Summary

DISCUSSION

Orthopaedic surgeons form a valuable part of our MDT VAC, often involved in biopsy/removal of lesions, as well as skeletal deformity correction.

Benefits of the MDT VAC include; patients are reviewed by multiple specialists concurrently, numerous management options are put forward as well as the creation of expertise and experience. Challenges faced include vascular malformations are a chronic condition, often requiring long-term management. Studies looking at long-term outcomes are scarce, possibly as a result of no validated patient reported outcome tool being available and diversity of their presentations.

CONCLUSIONS

The complex nature of vascular anomalies and the high proportion of patients requiring multi-specialty management justified the establishment of an MDT VAC in our centre. Our experience demonstrates the success of an efficient one-stop MDT environment in the management of these challenging conditions.

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