Managing birthmarks and vascular malformations in pediatric patients.

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Introduction

Birthmarks and vascular malformations are common dermatological concerns in pediatric patients. While many birthmarks are benign, some vascular anomalies can cause functional impairment or aesthetic concerns. By integrating evidence-based approaches, healthcare providers can improve outcomes and quality of life for affected children [1].

While some lesions resolve spontaneously, others require medical or surgical intervention to prevent complications such as ulceration, bleeding, or functional impairment [2].

These include congenital melanocytic nevi, café-au-lait spots, and Mongolian spots, often resulting from melanin distribution abnormalities. Proliferative vascular tumors that grow rapidly in infancy before involution [3].

Structural anomalies of blood vessels, including capillary, venous, lymphatic, and arteriovenous malformations, which do not regress spontaneously. Clinical evaluation, dermoscopy, and imaging modalities such as ultrasound, MRI, and angiography aid in diagnosing and differentiating vascular anomalies. Genetic testing may be required for syndromic cases [4].

Propranolol is the first-line treatment for problematic infantile hemangiomas. Used for hemangiomas that do not respond to beta-blockers. An mTOR inhibitor for complex vascular malformations [5].

Pulsed dye laser (PDL) is effective for capillary malformations, particularly port-wine stains. Embolization is used for arteriovenous malformations. Surgical excision is reserved for refractory cases with functional impairment [6].

Gene-targeted therapies and anti-angiogenic agents show promise in treating refractory vascular malformations. Laser-assisted drug delivery is being explored for enhanced therapeutic effects [7].

Children with visible birthmarks may experience psychological distress and social stigma. Multidisciplinary care, including dermatologists, psychologists, and support groups, can improve patient well-being [8].

This article explores the classification, diagnosis, and management strategies for birthmarks and vascular malformations, including conventional treatments and emerging therapies [9].

Birthmarks and vascular malformations affect a significant number of newborns and children. These lesions are classified into pigmented birthmarks and vascular anomalies, with the latter further divided into hemangiomas and vascular malformations [10].

Conclusion

Managing birthmarks and vascular malformations in pediatric patients requires a comprehensive approach, integrating medical, laser, and surgical interventions. Advances in targeted therapies and multidisciplinary care offer promising solutions for improving patient outcomes.

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