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Journal Article Summary

The following article discusses risk factors, diagnosis and preventions of pediatric thrombosis. Although thrombosis is less common in pediatrics than in adults, it is increasingly recognized as a potentially life-threatening condition. The author highlights that pediatric thrombosis differs from adult thrombosis in terms of etiology, risk factors, and clinical presentation. In children, thrombosis is rarely spontaneous and typically occurs in the presence of underlying risk factors such as central venous catheters, infections, congenital heart disease, trauma, or inherited thrombophilias. Because symptoms are often nonspecific or easy-to-miss, the condition may be underdiagnosed, which can delay treatment and increase the risk of complications such as pulmonary embolism.

Some key findings from the article indicate that central venous catheters are among the most significant contributors to thrombosis in pediatric patients, particularly in hospitalized or critically ill children. Still, venous thrombosis is a multifactorial condition often involving both acquired and inherited risk factors. Therefore, early recognition and appropriate imaging are essential for diagnosis, with ultrasound being commonly used as first-line. Management typically involves anticoagulation therapy, but treatment should be individualized based on patient age, bleeding risk, and underlying conditions. Additionally, the article highlights the importance of prevention in high-risk patients through careful monitoring and minimizing modifiable risk factors.

In my patient, although she is a healthy 17 year old, she has an important acquired risk factor which was her recent initiation of oral contraceptive pills, and this is well known to increase the risk of venous thromboembolism. The article emphasizes that adolescents can still develop thrombosis when these risk factors are present, even if they appear low risk. Given my patient's presenting symptoms of chest pain, shortness of breath, and unilateral left calf pain, these are concerning for possible deep vein thrombosis and pulmonary embolism.

The article also highlights that pediatric thrombosis may present with subtle or nonspecific symptoms and can be easily overlooked. This supports the need to maintain a high index of suspicion in my patient, despite her stable presentation and reproducible chest wall tenderness suggesting a musculoskeletal etiology such as costochondritis. Her case demonstrates how a likely benign diagnosis can coexist with concerning features that warrant further workup. Although her workup was ultimately reassuring, with a low D-dimer and negative cardiac and imaging findings, the article supports the importance of thoroughly evaluating risk factors and symptoms before excluding thrombosis.

Reference

Obeagu E. I. (2025). Pediatric thrombosis: Risk factors, diagnosis, and prevention strategies. *Medicine*, *104*(29), e43370. https://doi.org/10.1097/MD.0000000000043370