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Opinion Article

Incidence and Risk Factors of Thromboembolic Events in Pediatric Inflammatory Bowel Disease

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DESCRIPTION

Persons with Inflammatory Bowel Disease (IBD) are associated with a higher risk of Thromboembolism (TE), especially Venous Thromboembolism (VTE). A meta-analysis involving over 200,000 IBD patients found that VTE risk is approximately double that of the general population. There is also a modest rise in Arterial Thromboembolism (ATE), especially among women and younger patients. Despite growing literature and guidelines for thromboprophylaxis in IBD, the incidence of VTE has only slowly decreased in the United States, while hospitalizations related to VTE in IBD patients have increased.

Younger patients face a significantly higher relative risk of TE, with a six-fold increase before age 20. However, existing cohort studies have not reported on ATE, depending on primarily on data from adult IBD populations. In addition, the majority of the data on VTE incidence and risk factors in IBD with a childhood beginning comes from small observational cohorts, which results in uneven thromboprophylaxis methods. Children with severe acute colitis who also have other risk factors should only undergo thromboprophylaxis, which are highlighted the need to reassess the role of thromboprophylaxis in future guidelines, emphasizing the importance of understanding VTE risk factors in pediatric IBD patients.

In 2023, a meta-analysis of 107 studies identified associations between VTE and factors such as ulcerative colitis, steroid use, central venous catheters and the first year post-diagnosis. A recent international study involving 129 centers reported a VTE incidence of 3.72 per 10,000 person-years in pediatric IBD, with cerebral sinus venous thrombosis accounting for half of the cases. However, this non-population-based study likely suffers from selection bias.

Population-based observational cohort studies, which evaluate entire populations in defined geographic areas over extended periods, are less exposed to selection review and are ideal for understanding the natural history of diseases. The largest studies have utilized administrative data, which can introduce information bias and lead to heterogeneous results, showing a seven-fold variation in VTE incidence. Moreover, administrative datasets often lack detailed descriptions of the IBD phenotype, location or activity and primarily focus on the increased VTE risk attributed to IBD itself, rather than finding particular risk factors for pediatric patients' VTE.

Consequently, there is a pressing need for high-quality cohort studies to improve our understanding of thromboembolism in pediatric IBD. Moreover, the depending on administrative data in existing research has introduced biases that may shift our understanding of VTE incidence and risk factors. This underscores the necessity for high-quality, population-based observational cohort studies that can provide a clearer picture of TE risk in pediatric IBD patients. By investigating these relationships comprehensively, future research can inform guidelines that improve thromboprophylaxis practices, ultimately leading to better management and reduced hospitalization rates for affected children. Prioritizing this research will be vital for advancing pediatric care in IBD and ensuring the safety and well-being of young patients.

CONCLUSION

In conclusion, the association between inflammatory bowel disease and an increased risk of thromboembolism, particularly venous thromboembolism is well established in adults, yet remains less understood in pediatric populations. The significant relative risk of TE in younger patients highlights an urgent need for focused research in this population. Current guidelines for thromboprophylaxis are limited and primarily target severe acute cases, leaving a substantial gap in preventive measures for the broader pediatric IBD population. With recent studies suggesting important risk factors such as ulcerative colitis and steroid use, it is clear that an understanding of VTE in pediatric IBD is essential for improving clinical outcomes.

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