Navigating challenges in paediatric warfarin therapy: a call for standardised guidelines and innovations

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Dear Sir,

We read the article by O'Brien et al. with great interest. The authors provide valuable insights into the complexities of managing warfarin therapy in children with cardiac conditions, shedding light on the significant challenges of maintaining optimal anticoagulation in this population. We commend the authors for meticulously evaluating international normalised ratio control and home monitoring devices like CoaguChek, highlighting the importance of patient-centred approaches. While consistent with existing literature, the median percentage time in range of 55.4% underscores the difficulties in achieving consistent therapeutic anticoagulation in children due to age-related variations in metabolism and dietary influences.[1] We have some experience with warfarin monitoring in adults in India. India is a low- and middle-income country; warfarin is rarely started as a loading dose. Patients come from distant places for city cardiology visits, making international normalised ratio monitoring difficult and of varying quality of reports. It led to reduced time spent in therapeutic international normalised ratio and larger time spent reaching therapeutic international normalised ratio.[2,3] While the authors briefly discuss the emerging role of direct oral anticoagulants, we encourage further emphasis on this area. Direct oral anticoagulants, as evidenced by trials like UNIVERSE and SAXOPHONE, may provide promising alternatives, particularly in reducing the frequency of monitoring and improving quality of life. However, their application in conditions requiring higher therapeutic windows, such as mechanical valve patients, warrants further investigation. Also, low- and middle-income countries are still using warfarin despite direct oral anticoagulants availability in the market for a considerable time.[2]

The authors' proposal to establish anticoagulation clinics with dedicated parental education is praiseworthy. Studies indicate that structured education can enhance adherence and empower caregivers to manage paediatric anticoagulation more effectively. Expanding on specific strategies, such as using digital tools for international normalised ratio tracking, could add further value. The study noted the lack of institutional guidelines, highlighting a gap that needs addressing. We suggest national or international paediatric cardiology bodies consider developing standardised protocols for warfarin and direct oral anticoagulant use, incorporating pharmacogenomic considerations to refine dosing. We did test utilising warfarin pharmaco-genetic panel in Indian patients in a randomised controlled trial, and it was found to be a cost-effective strategy.[4,5] The O'Brien et al. study employs the % time in range metric, yet an analysis using percentage time within therapeutic range might have provided additional granularity in assessing anticoagulation quality. Future studies could integrate this to compare methodologies and their impact on clinical outcomes. Finally, while retrospective analyses are inherently limited, the data presented could serve as a baseline for prospective studies assessing the impact of proposed interventions like home monitoring and direct oral anticoagulant transitions. This study significantly contributes to the ongoing discourse on anticoagulation in paediatric cardiology. We hope our comments stimulate further exploration into optimising anti-coagulation therapies for this vulnerable group.

Competing interests. None.

References

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