

Venous recent advances in medical and surgical treatment



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Venous thromboembolism and arterial thromboembolism are very rare event in pediatric age group as compared to adults. Over last two decades incidence of thrombosis is showing an uprising trend.

The increase is mostly attributable to three factors: increased research and awareness of the disease improved and advanced radiological imaging for diagnosis of thrombosis and improvement in the survival of children with thrombosis attributable to recent advances in medical and surgical treatment for the same. The diagnosis and treatment of thrombosis in children were initially based on standards of care for adults. Clinical trials in pediatric population are less in number and main data available for research is extrapolated from adult studies where previously a lot of work is done.

The use of adult data for pediatric population is highly unreliable for a lot of reasons: 1. Differences in etiopathogenesis and epidemiology of thrombosis in pediatric age group. 2.

Age dependent haemostatic factors. 3. Less available data on pharmacokinetics of anticoagulants proving its safety and risk in pediatric population. 4.

Long term survival of children as compared to adults following thrombosis also make the study different and requires need for follow-up and study of long term outcome. However lot of work during last two decades has led to availability of comprehensive pediatric data on incidence, etiology, pathogenesis and various anticoagulation and treatment modalities for thrombosis events in children, also forming baseline for various researches in the field for future studies. Recent advances in the field of paediatrics

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with emergence of advanced, novel and complex medical therapies with increased use of central venous catheters can also be related to increased incidence of the disease. Vascular thromboembolism in the pediatric population is a serious problem. The reported annual incidence of thromboembolism is 5.

3 per 10, 000 hospital admissions of children and 24 per 10, 000 admissions to neonatal intensive care units(1, 2). The incidence of thrombotic events in children seems to have increased over the past 10 years because of an increased awareness of the disease, progress in radiologic imaging, increased frequency of central venous catheterization and increased survival of children with previously incurable diseases. Risk factors for thromboembolism in childhood includes: central venous catheter, infection, immobilization, surgery, nephrotic syndromes, cancer, congenital heart disease, antiphospholipid syndrome, renal disease and inherited thrombophilias(1, 3-5). Acquired medical risk factors are commonest cause of thrombosis in pediatric age group than inherited thrombophilias(6, 7). Approximately 95% of children have underlying medical illness with presence of a central venous catheter making it most important acquired trigger contributing to 90% of all neonatal venous thrombosis and to 50% of all cases in other age groups(5, 7).

Serious complications may be associated with thrombosis that includes pulmonary embolization, stroke and death. Generally, venous thrombosis resolves after anti-coagulation therapy with or without need of thrombolysis whereas arterial thrombosis results in permanent organ damage. The directly attributable mortality rate of 2% was reported in the <https://assignbuster.com/venous-recent-advances-in-medical-and-surgical-treatment/>

Canadian registry trial(1) and approximately 7% develop recurrence and 26% develop post thrombotic syndrome on follow up(8) .

There is paucity of clinical studies regarding the thrombotic events in children especially in India, hence this study.