We aimed to determine the predisposing patient, catheter and healthcare-related factors of peripheral vein thrombophlebitis in the upper extremity” Heng et al (2019).

Abstract:

BACKGROUND: The acceptable incidence of thrombophlebitis following intravenous cannulation is 5% as recommended by the Intravenous Nurses Society guidelines, but publications have reported startling figures between 20% to 80%. Given the frequency of intravenous lines, this presents a potential clinical problem. We aimed to determine the predisposing patient, catheter and healthcare-related factors of peripheral vein thrombophlebitis in the upper extremity.

METHODS: In this systematic review, we used a comprehensive search strategy to identify risk factors of thrombophlebitis from inception to May 20, 2019. Studies reporting risk factors of peripheral vein thrombophlebitis of adult patients admitted to hospital and receiving an intravenous cannulation were included. Quality of Prognostic Studies (QUIPS) tool was used in the assessment for risk of bias to determine the study quality.

RESULTS: Of the 6910 studies initially identified, 25 were eligible for inclusion. Qualitative syntheses revealed that patient-related factors that confer a higher risk included intercurrent illness, immunocompromised state, comorbidities such as diabetes mellitus, malignancy, previous thrombophlebitis, burns, and higher haemoglobin levels. Catheter-related risk
factors included catheter size, duration, and site of insertion. Intravenous antibiotics and potassium chloride predisposed to thrombophlebitis. Cannulation by an intravenous therapy team and more nursing care were associated with a decreased risk. A p-value < 0.5 was considered to be statistically significant. CONCLUSION: Recognition of the predisposing factors would allow for targeted strategies to aid in the prevention of this iatrogenic infection, which may include closer monitoring of patients who are identified to be vulnerable. Based on this systematic review, we developed an algorithm to guide clinical management. Further research is warranted to validate this algorithm.

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