

# EFFECTIVENESS OF COLD APPLICATION, HEPARINOID APPLICATION AND MAGNESIUM-SULPHATE APPLICATION ON SUPERFICIAL THROMBOPHLEBITIS AMONG PATIENTS

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## Abstract

Intravenous infusions are an important aspect of therapy in both medical and surgical conditions. It is an outstanding fact of modern therapies that the intravenous route is the most readily practicable means of rapid or massive replacement of fluids especially for the administration of isotonic, hypertonic, blood and blood products. The commonest complication of this therapy is thrombophlebitis, and the nurses use various modalities to prevent and manage such occurrence in their patients. Therefore, a quasi-experimental study was undertaken to assess the effectiveness of cold application, heparinoid application and magnesium-sulphate application on superficial thrombophlebitis among patients in selected hospitals of Indore. Three-group pretest and posttest design was adopted for the study. Sample sizes of 45 patients were selected using purposive sampling and they were randomly assigned into three groups. A superficial thrombophlebitis scale and pain intensity distress scale was developed by the investigator for data collection. Following the pre-test, intervention with cold application was given to 1st experimental group (C), for a period of twenty minute, 2nd experimental group (H) was intervened with heparinoid application using thrombophobe ointment by gentle massage and similarly in 3rd experimental group (M), magnesium-sulphate dressing was done by dipping the gauze in the magnesium sulphate glycerine solution and applied on superficial thrombophlebitis. All the interventions were given three times a day (6 A.M., 2 P.M., 10 P.M.) for three days.

The finding of the study indicated that the computed 't' value of cold application group ( $t'_{14}=14.33$ ), heparinoid application group ( $t'_{14}=11.90$ ) and magnesium sulphate application group ( $t'_{14}=20.82$ ) were statistically significant, which suggested that all three interventions were effective in reducing the signs and symptoms of superficial thrombophlebitis. The computed 'F' ratio of all the three groups ( $F'_{2,42}=10.10$ ) showed that three types of application differ significantly. However, the mean difference of magnesium sulphate group (18.34) was higher than the cold application (13.33) and heparinoid application (12.8) group. This concluded that magnesium sulphate application is most effective intervention in reducing the superficial thrombophlebitis.

**Key words:** superficial thrombophlebitis, cold application, heparinoid application, magnesium sulphate application

## Background

Over one fourth of hospitalized patients receive intravenous therapy for fluid replacement and administration of drugs. It is also recognized that intravenous therapy exposes the patient to a considerable variety of hazards and less commonly to grave danger. Incidence of thrombophlebitis often means prolonged hospitalization, loss of income of patient, increased expenditure on antibiotic and other modalities for treatment. (Black, J.M. 1980).

Mehta, P.P. (1998), conducted a randomized double blind

study with 100 surgical patients who developed superficial thrombophlebitis after the infusion of saline, dextrose solution, blood and other fluids. The patients were treated with M.P.S. cream (Muco polysaccharide poly sulfate) and placebo. The mean time required for the relief of superficial thrombophlebitis in-patient receiving placebo was 126 hour, while in those receiving the M.P.S. containing cream was 58 hour. The registered nurse is the only member of the health team who can, on a continuous basis assume the responsibility for regular monitoring of intravenous therapy and prevention of complications. An understanding of the factors leading to complications following intravenous therapy, under existing condition of patient care would increase the possibility of planning appropriate nursing care activities that would reduce the occurrence of superficial thrombophlebitis.

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