ABSTRACT

Inflammation Around the Intravenous Site in Children

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HOSPITALS are health organisations for providing quality care to the society in which they exist. But they often act as a source of infection to patients admitted to them. In the advanced countries it has been reported that hospital infection is 2½%, It is much higher in the crowded hospitals of developing countries. Even when hospitalization does not lead to obvious infection, it causes a change in the patient microbial flora, the normal flora being gradually replaced by the drug resistant microorganism typical to the hospital environment.

In the total care of patients with intravenous (IV) injection/infusion the Nursing staff is responsible for prior preparation of the site and selection of equipment. She is responsible for maintaining the potency of the IV lines, securing it in position and discontinuing whenever required. Even though the IV therapy has become a major component of patient care, the local infection around the IV line is a common complication observed.

Objectives

1. To identify the occurrence of local inflammation around the IV site as measured by the following criteria: Redness; Swelling; Heat, Loss of Function.

The criteria selected for confirming inflammation in this study were: increased heat and swelling at the local area.

2. To identify the selected factors which contribute to inflammation around the IV site in children.

The selected related factors were: 1. Type of injection/infusion used 2. Frequency of administration of infection. 3. Site of IV injection/infusion. 4. Gauze of cannula used. 5. Number of pricks given for insertion of cannula. 6. Duration of cannula in site. 7. Microorganism identified through culture of cannula tip. 8. Nursing procedure.

Assumption

1. Based on the review of related literature and expert opinions a data gathering tool was developed. The approach adopted was exploratory correlation method. This included the observation of the occurrence of inflammation around the IV site. Besides patient's biodata the tool included the following:

* The selected variables related to IV injection/infusion.
* Observation check list on nursing procedure. It had the following areas — Handwashing, skin preparation, injection from ampoule and vial and IV infusion.
* The nature of inflammation which included the occurrence of the signs and symptoms of inflammation, day of occurrence and the criteria selected for confirming inflammation.

Using a validated and reliable tool (= .99) for confirming inflammation and reliability score for Nursing Procedure (= .98) the data was collected by adopting a nonprobable convenient sampling method. The technique used was nonparticipant observation check list. All the required data was collected by the investigator between 6.00 a.m. and 10.00 p.m. Everyday each child had five observations, every four hours for five days to identify the signs and symptoms of local inflammation. The Nursing procedure of starting IV line was observed by using observation check list.

Analysis and Findings

The obtained data was classified, grouped and analysed statistically based on the objectives of the study. The majority (80%) of children who get admitted are below 3 years. Male children were more than female. Nutritional status showed 72% were malnourished.

The occurrence of inflammation in relation to the variables of IV injection/infusion revealed that children received a variety of infection and infusion. A total number of 52% of children got inflammation around the IV site irrespective of the type of injection/infusion. The vain commonly used for injection/infusion was Dorsal metacarpel of the hand and Dorsalis pedis of the foot. It was observed that vais of the hand caused less inflammation than foot. The duration of cannula in site varied from 72 to 96 hours. The longer the duration the higher was the inflammation rate. Frequency of administration of injection showed that children who received BD injection had 80% inflammation while those of Q6H or Q8H (53%) and those who had continuous IV flow had (40%) inflammation. The cannula tip culture had Psuedomonas, and Khbsiella organisms were found to be causing inflammation.

From the observation of the Nursing procedure certain items in the procedure such as hand washing and skin preparation was done by all nursing staff. The important item like cleaning the stem of the ampoule before cutting it and wiping off the surface of the rubber seal of the vial with a sterile spirit swab was not done by the staff.

Confirmation of inflammation was done according to the set criteria to maintain objectivity. The nature of inflammation was identified by the signs and symptoms and the day of occurrence. The severity was noted by the duration. The study revealed that 52% of children had inflammation around

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the IV site.

The relationship between the variables and inflammation was computed by using Chi-square test. The finding suggested that there was no statistical relationship.

The findings of the study supported the research assumption that the signs and symptoms of inflammation are observable and recordable. The technique followed throughout the course of IV injection/infusion can influence the occurrence of inflammation.

Conclusion and Recommendations

The important observation was that the IV therapy has been a major component in the care of the children. The fact needs to be emphasisted that the Nursing staff have a major role in starting and management of IV injection/infusion. Hence the nurse needs to know aseptic principles and their application in the practical performance. A break in the aseptic principles at any level makes the whole procedure unsafe and the patient is thus exposed to bacterial infection.

Nursing staff are in unique position to provide the best of care to the patients during their Hospitalization, so she could prepare guidelines for the care of the patients during IV injection/infusion, with the aim of improving the standard of nursing care. They could prepare a schedule for observation of patients who are on IV line. This observation should aim at early recognition of the signs and sumptoms of infection and any other IV complication.

MENTALLY ILL ABANDONED EVEN IN DEATH

KOTA NEELIMA

For the outside world, the four women and a body who died at the Asha Kiran Home for Mentally Handicapped in Rohini, New Delhi do not exist. Their families had already abandoned them, their presence erased from human memory even when they are alive. After their death four of the five had to be cremated by the officials from the Home. Even after repeated messages regarding their illness and then their death, there was no word from their families.

According to the staff at the home, the families were all reasonably prosperous. "When they were brought in we were surprised that these people could not afford to take care of them. They looked like they could afford to employ at least a Nurse," says a caretaker.

Ironically, the poor seem be more accommodative. The only victim who was cremated by her family was the 22-year-old Ragini who was taken away by her family when she was ill. Her family, belonging to a labourer who lives in Sultanpuri, wanted to take her to the Sanjay Gandhi Hospital in the morning, but Ragini was unfortunately ded by 8 am on Saturday.

But for how long? Waiting for death seems to make the living very restive.

"Then these people decide that as there is a government Home, why not use free facilities and put these people here," he adds.

As a result while the home was set up for about 300 inmates there are now 470 inmates. "They come with their children and we cannot say no to the families. Their problem is understandable, these children require special care which a normal family cannot provide," says Gita Sagar, Director, Delhi Social Welfare Department.

After waiting for the families for as long as they could keep the bodies, the official of the home cremated them. Says M.S. Chauhan, Joint Director, Social Welfare Department: "We kept the bodies hoping that their families may turn up eventually. They never did, so we conducted the last rites."

But he points out that this is not strange. "It is very normal. No one bothers to cremate the people who die here. We have experienced this before too," he says.

One of the caretakers at the dormitory finds it appropriate that the cremation of these people should be conducted by the only friends they have. "We understand them well, because they cannot talk so it is only by intuition that we help them. It is only fair that we should see to their last rites."

MENTAL HEALTH DAY OCTOBER 10

First to die among the four inmates was Anju Bala, 22 at 5 am on Friday (August 21) due to unknown reasons. The second was Seema, 27, at 11 am on Friday due to epilepsy. The third was Dhani, 40, at 1 pm on Friday due to cardiac arrest. The fourth was the only boy Satish, 12, who died at 11 pm on Friday due to unknown reasons. The last to die was Ragini on Saturday.

Gita Sagar feels that there should be more homes like these. "This is the only home in all of north India for the mentally retarded. We have only one doctor to take care of all the 470 patients and the Out Patient Department."

The initial proposal envisaged three doctors for setting the Home. But when the Delhi Government approved it, the Home had only one doctor. In this case, when there was one death at every six-hour interval, the only doctor available was not on duty. The duty ends at 5.30 pm and four of the five deaths took place when there were only Nurses present to help.

A magisterial inquiry into the deaths, to ascertain the cause has been conducted by the deputy commissioner, north-west, Sarath Chauhan.

(Courtesy : The Indian Express).