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Nursing Management for Necrotizing Fasciitis (Flesh-Eating Disease)

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Abstract: ***Bacteria are fascinating organisms. They are all around us and many bacteria are helpful to us. Bacteria aid in food digestion, nutrient absorption, vitamin production, and protect against other harmful microbes. Conversely, a number of diseases that impact humans are caused by bacteria. Every year, between 600 and 700 cases are diagnosed in the U.S. About 25% to 30% of those cases result in death. It rarely occurs in children. Necrotising fasciitis is a rare but potentially fatal condition with reported mortality up to 76%Vibrio vulnificus is a rare cause of necrotising fasciitis; however, the disease is one of the major manifestations of the bacteria. Here, we report one such case in a middle-aged male patient. He presented with the signs of bilateral lower limb cellulites' and altered sensorium. V. vulnificus was isolated from blood culture and also from debrided tissue. Though the organism is well characterised, it is a rare causative agent of necrotising fasciitis.***

1. Introduction

It is a rare infection that's often described in media reports as a condition involving "flesh-eating bacteria." It can be fatal if not treated promptly.

Causes

It is caused by Group A Streptococcus (GAS) bacteria. The bacteria that cause necrotizing fasciitis can enter the body following surgery or injury. They can also enter the body through:

1) Minor cut
2) Insect bites
3) Abrasions

In some cases, it is unknown how the infection began. Once it takes hold, the infection rapidly destroys muscle, skin and fat tissue.
It is caused by Group A Streptococcus (GAS) bacteria.

2. Sign & Symptoms

Early Symptoms: The earliest symptoms occur in the first 24 hr of a bacterial invasion.

- Fever
- Pain malaise and thirst.

Nurses need to be prepared to recognize the erythema that quickly spreads with a margin of redness that extends to normal skin without being raised.

After the 48-72 hrs the Necrotizing fasciitis will progresses. Pain at the wound site, increasing erythema, edema, and warmth. The redness changes to dusky or bullae appear. These bullae enlarge and rupture and then leak out a foul smelling, thin, dirty- gray fluid called "dishwater pus".

Within 4-5 days of the appearance of the first symptoms, patients may demonstrate critical symptoms, including numbness, hypotension, toxic shock and unconsciousness. The disease may progress to gangrene, sepsis and potential death.

Nursing Management:
A collaborative multidisciplinary care approach should include acute monitoring, administration of antibiotics and IV fluids, wound management, pain management, nutritional support, physical therapy, psychosocial support and patient and family education.

Acute monitoring: Baseline assessment vital signs, intake output and laboratory data. Febrile, tachycardia, BUN and hematocrit should be observed, if client diagnosed delayed, could be the difference between life and death.

1. Wound Management:
The wound assessment should include observation for expansion of erythema or an increase in edema, pain, color, or drainage. The patients are often placed in isolation and require multiple time- consuming dressing changes.

2. Pain Management:
Administration of opioids, muscle relaxants, neuropathic agents, antianxiety medications and local anesthetic should be utilized in the pain. Additional opioids given intravenous push combined with an antispasmodic like diazepam in reducing pain and suffering during dressing changes. Some non- pharmacological interventions that may help relieve pain are imagery, music therapy, distraction, and cold therapies. Massage and frequent reposition changes also promote comfort.

3. Nutritional Support:
The amount of calories and proteins should be double that of the normal basal requirement. Parenteral or enteral nutrition is required for these patients. To ensure that the patient is receiving adequate nutrition adequate nutrition, baseline and repeated monitoring of albumin, prealbumin transferring, BUN and triglycerides should be performed. These patients may also require supplements including iron, vitamin C, and vitamin E to promote wound healing.

4. Physical therapy:
Encouraging mobility, increasing range of motion of extremities and participating in activities of daily will promote circulation and tissue perfusion. The nurse should assess the oxygen saturation every 4 hourly.

5. Psychological Support:
There can be psychological consequences of Necrotizing fasciitis resulting from intense discomfort, serial surgical debridement, painful dressing changes, physical disfigurement and a myriad of emotions such as anxiety, worry, guilt, anger and hopelessness. Antidepressant medications may reduce feelings of depression and pain, anxiety and body image disturbance caused by the appearance to extensive reconstructive surgery and interventions.

6. Education:
The hand washing and isolation precautions should be carried out. During hospitalization need to teach and evaluate and patient's understanding of wound care other specialty needs. The patient must be able to care for their wound, administer intravenous antibiotics, and prepare nutritious meals, maintain a clean environment, medication and supplies and ambulate safely.

7. Necrotizing fasciitis Prevention
Currently 15%-20% of the population is asymptomatic carries of Group A streptococcus. The bacterium is harbored in the mouth and the throat and can be transferred to other persons by respiratory droplets or direct contact with person carrying a streptococcus.

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