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DECUBITUS ULCER……..A CASE STUDY

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ABSTRACT

Pressure ulceration of the skin is a pervasive problem in health care. The cost of the problem is enormous, both in terms of individual human suffering and in terms of the financial expenses to society. Approximately 60,000 people a year die from complications of pressure ulcers. The epidemiology reveals at least three major at risk groups: (1) the young neurologically impaired patient, (2) the elderly patient, (3) the hospitalized patient. Healthy and mobile individuals make numerous postural adjustments throughout the day to prevent pressure sores from ever developing. These subtle movements we take for granted are not possible for patients who are paralyzed, injured, ill or very old and frail. For them, pressure ulcers are a constant risk.

INTRODUCTION

Mr. X, 40 years old man, a known case of traumatic paraplegia for last 18 years. Mr. X, had a past history of RTA (1998), in which he sustained serious injuries including spine. Due to this accident he was not able to walk and is bed ridden ever since. Following this accident he was initially admitted at PGIMER, Chandigarh, where he was treated for his paraplegia. Due to the spinal injury caused by the accident, he has been on a catheter to drain the bladder. Gradually the patient began to develop recurrent urinary tract infections which later became refractory to treatment. The patient came to CMC, Ludhiana with severe infection of his external genitalia and high fever in 2009. At that time he was diagnosed as Neurogenic bladder and Fournier's gangrene for that he had undergone with serial debridements and STSG. Now (January, 2016) he is presented with chief complaints of pain in abdomen and fever (on & off) for two months. He is also having discharge from a wound over right gluteal region with ulcers on his right lateral aspect of thigh and on penoscrotal junction for 15 days. Mr. X, is diagnosed to have *Decubitus ulcers* (Rt Gluteal region grade II, Thigh grade III, and Penoscrotal junction grade II).

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Grading of Decubitus Ulcers according to the ICD-10-GM (German modification of the ICD-10), 2010 version

ICD code	Classification	Description
L89.0	Grade 1	Pressure zone with redness that does not blanch with fingertip pressure, with skin still intact
L89.1	Grade 2	Decubitus ulcer (pressure sore) with skin erosion, blister, partial loss of the epidermis and/or dermis, or skin loss
L89.2	Grade 3	Decubitus ulcer (pressure sore) with loss of all skin layers and damage or necrosis of the subcutaneous tissue, which may extend down to the underlying fascia
L89.3	Grade 4	Decubitus ulcer (pressure sore) with necrosis of muscle, bone, or supportive structures such as tendons or joint capsules

Definition

A pressure ulcer is defined as a localized area of cellular necrosis that tends to develop when soft tissue is compromised between a bony prominences and a firm surface for a prolonged period.

Epidemiology

There are no precise figures on the prevalence of Decubitus ulcers, only estimates that vary from one place to another and depending on the manner of estimation. A group of experts

estimated an overall prevalence of 9.2% among institutionalized patients, based on estimated local prevalence of

- 5% to 10% in hospitals,
- about 30% in geriatric clinics and homes for the elderly,
- and about 20% in nursing-dependent patients being cared for at home

Pathophysiology and Etiology

Pressure ulcers are the visible evidence of multiple interacting factors that can be divided into extrinsic, or primary, and intrinsic, or secondary, categories. Extrinsic factors that exert mechanical force on soft tissue include *pressure*, shear, and friction. Intrinsic factors that determine susceptibility to tissue breakdown include protein malnutrition, anemia, *sensory loss, impaired mobility*, advanced age, decreased mental status, *incontinence and infection*.

Factors in the development of pressure ulcers:

- Pressure of 70 mmHg applied for longer than 2 hours can produce tissue destruction, healing can not occur without relieving the pressure.
- Friction contributes to pressure ulcer development by causing abrasion of the stratum corneum.
- Shearing force, produced by sliding of adjacent surfaces is particularly important in the partial sitting position. This force ruptures capillaries over the sacrum.
- Moisture on the skin results in maceration of the epithelium

Nursing management

Nursing diagnosis: Impaired tissue integrity related to mechanical destruction of tissue secondary to pressure, shear and friction.

Interventions

- Compensate for sensory deficits by inspecting the skin every 2 hourly for signs of injury.
- Taught the client and the family members to inspect the skin frequently.
- Identified the stages of ulcers with the help of Grading of Decubitus Ulcers according to the ICD-10-GM (German modification of the ICD-10), 2010 version.
- Eliminate the factors that contribute to extension of existing pressure ulcers by gently massaging healthy skin around the ulcer to stimulate circulation.
- Eliminate the pressure over the ulcers by using air mattress and pillows.

Nursing diagnosis: potential for infection related to exposure of ulcer to fecal material.

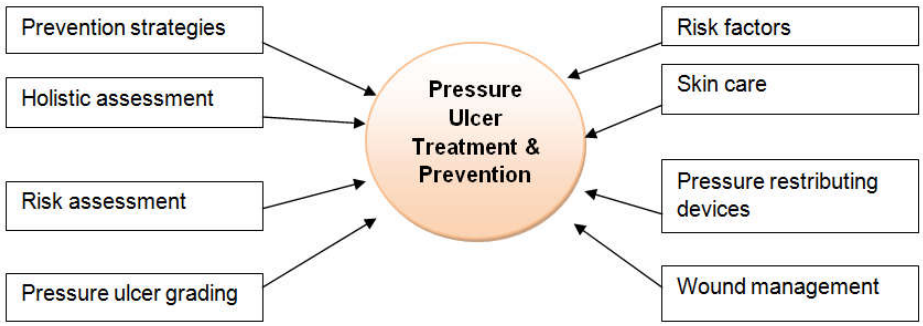
Interventions

- Taught the patient and the family members about the importance of good skin hygiene.
- Cleansed the skin thoroughly after each incontinent episode.
- Ensured meticulous hand washing to prevent infection transmission.

Risk factors for pressure ulcers

According to Text book	In Patient
Bowel or bladder incontinence	• Neurogenic bladder from 2009
Malnourishment or significant weight loss	
Edema, anemia, hypoxia, or hypotention	• Anemia present (Hb=9.3 gms)
Neurologic impairment or immobility	• Paraplegia, bed ridden from 1998
Altered mental status including delirium or dementia	

A Holistic Approach to Deal with Decubitus Ulcer



Medical management

In Text Book	In Patient
• Bowel/bladder management program	Supra pubic catheter in situ to drain the bladder.
• Wound management	Wounds are cleaned with saline and dressing is done with Interasite gel to fill the cavity daily
• Use of antibiotics (e.g., topical, systemic)	Inj. Tazosab 4.5 gms given Q 8 hourly through I.V.
	Tab. Clindamycin 600 mg given BD per orally
• Debridement of devitalized tissue	Wounds were debride and slough removed
• Use of a low-air-loss or air-fluidized surface	Air mattress is provided

- Used sterile technique during all dressing changes.
- Used new sterile gloves for each dressing change as patient has three ulcers.

Nursing diagnosis: Potential self concept disturbance related to the effects of disability.

Interventions

- Contacted the patient frequently and treated him with warm regard.
- Encouraged the patient to express feelings and thoughts about the condition, prognosis, effects on life style and treatment.
- Clarified his misconceptions.
- Helped the patient to identified strategies to increase independence.

Preventive measures for decubitus ulcers

1. Measures to minimize shear-related injury
2. Measures to redistribute pressure
3. Use of skin protectant
4. Nutritional management
5. Use of a low-air-loss or air-fluidized surface
6. Bowel/bladder management program
7. Implement strategies to optimize healing
8. Wound management
9. Use of antibiotics (e.g., topical, systemic)
10. Debridement of devitalized tissue
11. Adjunctive therapies as indicated
12. Evaluation of need for operative repair
13. Evaluation and management of pain
14. Patient/caregiver education

Conclusion

Nurses have an opportunity to demonstrate the cost benefit outcomes of nursing care by providing information on the current costs of treating pressure ulcers. Nurses can have a direct impact on morbidity and mortality rates of patients who are at high risk for developing Decubitus ulcers. Nurses must institute aggressive measures to reduce the incidence of this national health problem.

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