

AN EPIDEMIOLOGICAL STUDY OF 100 SUBJECTS OF CHRONIC NON HEALING WOUNDS

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Abstract

Wounds in general and Chronic non healing wounds in particular have been the subject of research for clinicians and physicians practicing various system of medicine to find out cost effective drugs and techniques to cure such wounds. Today, the field has increasingly gained recognition and has developed to be a molecular- biotechnology focused industry. Considering the alarming growth of the cases of wounds in day to day practice – there is a need to develop an accepted wound classification, diagnostic programmes and treatment regimens & follow up data in the area of wound management especially in the field of Ayurveda. For this reason formal understanding & organization in wound management is of pivotal importance. With this background in mind, a study was planned to evaluate the demography and presentations of different types of Chronic Wounds. In this article, an attempt has been made to highlight on the epidemiology of 100 subjects of chronic non healing wounds.

Key words: Chronic non healing wounds; Epidemiology.

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INTRODUCTION

Chronic non healing wounds are a drain on the health care resources and continue to challenge the health care providers. From the available historical backdrop it is clear that wounds and their management have attracted the attention of clinical practitioners since the dawn of human history.

In the Indian context, the formal descriptions of wound care have been vividly elaborated in the Brahatrayi (three great treatises) of Ayurveda viz. Charaka Samhita, Sushruta Samhita and Astanga Sangraha. These documents not only describe Vrana (various types of wounds) but they also present their systematic classification along with their management including various systemic and local drugs and preparations. Sushruta, the father of Indian surgery in 1000 BC has elaborated the concept of Vrana. He not only gave an elaborate description of various types of wounds but also presented a descriptive aetiopathogenesis of wounds along with their management. Sixty different procedures for the management of wounds along with numerous herbal drugs which he had used both as local applicant and for internal administration have been described.

Anyhow, inspite of all these references, medical students and practitioners till date, find it difficult to understand the principles of wound healing on practical grounds. Considering the alarming growth of the cases of wounds in day to day practice –there is a need to develop an accepted wound classification, diagnostic programs and treatment regimens & follow up data in the area of wound management. For this reason formal understanding & organization in diagnosing a wound is of pivotal importance. It is in this context a need was felt to study the epidemiology of a few cases of chronic non healing wounds. The present study was therefore taken up.

METHODOLOGY

The study employed a non interventional observational study design. Patients who meet entry criteria with chronic wounds (> 6weeks) were assessed for their demographic profile and signs and symptoms.

Setting and Sample

The study population consists of 100 subjects with nonmalignant chronic wounds. The O.P.D of the Department of Surgery in the Ayurvedic and Modern wings and “Wound Clinic” under the modern wing of S.S.Hospital, Banaras Hindu University, Varanasi served as settings for the study.

OBSERVATIONS

In the study, the total sample size was 100. The overall prevalence of wounds was more in males constituting 73.8% whereas it was 26.2% in females. Males were more than twice as likely to develop wounds as compared to females. It was commonly seen in the age group between 30- 50years. Wounds were seen more frequently in those engaged in outdoor occupation.

The commonest mode of onset in chronic wound was sudden (69%). Pain as a symptom was present in most of the cases (81%) though its severity varied. Discharge was seen in about 83.3% of cases which was mainly serous in nature (50%). As regards to the shape of the wound, almost equal distribution was seen in Oval (35.7%), Circular (31%) and Irregular shapes (31%). The chronic wounds were commonly present in lower extremity (78.6%) as compared to other sites of the body. Even in lower extremity the distribution was more in the foot (52.4%) and then in the leg(26.2%).Only 10.7% had multiple wounds where as the rest (89.3%) had single wounds. The people who were harboring a co-morbid medical disease like diabetes mellitus (34.5%),

history of trauma (32.1%), peripheral ischemic disease (9.5 each of arterial and venous origin), tropical (8.3%) and leprosy (6%) were more likely to develop a chronic wound.

Majority of the wounds (82.8%) had a size of < 7cm. There was great variation in type of edge of chronic wounds. The floor of chronic wounds in majority of the cases revealed unhealthy granulation tissue or necrotic slough.

DISCUSSION

In the present study, the incidence of chronic non healing wounds was greater in males (73.8%) compared to females (26.2%). Longer duration of exposure to outdoor activities, local unhygienic and unhealthy food habits may have increased the incidence of wounds in males¹. Wounds, especially the chronic ones are often regarded as the disease of the elderly.² In this study, it was observed that the incidence of disease was highest in the age group of 30 – 50 years (41%) which might be due to the majority of people of this age group being engaged in outdoor occupation which exposes them to the risk of developing a traumatic wound which might further progress to chronic wound.

The disease was more prevalent in this age group because this is the most active phase of any human life and hence over straining, increased travelling, etc increase the incidence of disease in this age group. Moreover, it is in this age group that people usually become victims of several systemic disorders like diabetes mellitus, peripheral vascular disease, etc which also are the commonest cause for the development of non healing wounds.

The occupational status in the study showed that maximum number of subjects was from the labor class including farmers and coolies being 40.5 and 34.5% respectively. This group of labor class was more engaged in outdoor

occupation which exposed them to the risk of developing a traumatic wound which further progressed to a chronic wound. Their occupation further contributed to their improper management.

In 69% of the subjects, the mode of onset was sudden where as in 31% it was gradual. (Table 1) Trauma was the commonest form of non healing wound and due to this the mode of onset in maximum number of subjects was sudden. Even though many of the subjects had an associated systemic disorder, the cause of development of disease was trauma. Hence, maximum subjects had sudden mode of onset.^[3] In the present study, the subjects of chronic wounds had varying chronicity from a few weeks to several years. 33% of the subjects belonged to the group having a chronicity of 6 weeks to 3 months. In a set up like ours, despite having access to government healthcare delivery system and private practitioners, the subjects of wounds initially resort to home remedies for treatment of their wounds and seek medical advice only after their wounds fail to heal. That is why probably there is a high incidence in the group of duration ranging from 6 weeks – 3 months.

Pain was present in 81% subjects and absent in 19%. (Table 2) Presence of pain may be indicative of infection or subcutaneous tissue damage that is not visible. Absence of pain may also be indicative of neuropathy and therefore loss of sensation. The variation in the intensity of pain differs in subjects depending upon the site of the wound and tissue involved, type of the wound and wound dressing.^[4]

Discharge in wound was noted in 83.3% of subjects and absent in 16.7%. (Table 3) Wounds when become chronic usually are associated with infection. The debris from the wound is constantly shed off in the form of slough or discharge. Even in the initial stages of the wounds (i.e. during the inflammatory

phase), wound drainage containing dead cells and debris is shed off which is called as exudates which is nothing but discharge.

Table 1: Distribution of subject according to mode of onset

Sl. No.	Onset	Total %
1	Sudden	69.0%
2	Gradual	31.0%
Total		100

Table 2: Distribution of subjects according to presence of pain

Sl. No.	Pain	Total %
1	Present	81.0%
2	Absent	19.0%
Total		100%

Table 3: Distribution of subjects according to presence of discharge

Sl. No.	Discharge	Total %
1	Present	83.3%
2	Absent	16.7%
Total		100%

Among the 83.3 % of subjects complaining of discharge, majority had serous discharge constituting 50%, 17.9% had sero sanguineous and 15.5% had purulent discharge. (Table 4) Initially there was bleeding in the wound space which was controlled by clotting. During this phase, wounds will have bloody exudates constituting the sero sanguineous discharge. Serous discharge is the clear fluid that comes out from the wound. It is usually yellow and odori and is seen in various forms in the inflammatory phase. The purulent discharge is usually the pus which is a result of demise of neutrophils after they have

phagocytosed debris and excessive bacterial loads.^[5]

Distribution of wounds according to anatomical location showed maximum cases of wounds in foot constituting to 52.4%.^[6] followed by leg which was 26.2%. 6% of wounds were in the arm, 3.4% in the thigh and forearm respectively and 2.4% in back and hips and 1.2 in trunk chest and abdomen respectively. (Table 5) Trauma was the major cause of wounds which was very common in lower limb specially the foot and leg. Also among the systemic disorders associated with the wound, diabetes was the commonest. Hence, as a complication to diabetic neuropathy, subjects often develop wounds in the foot or lower limb even without the history of trauma. Also the wounds in the peripheral vascular disease further constitute to the wounds of the lower limb.

In 73.8% of the subjects, the surrounding area was normal. In 15.5% it was glossy red and oedematous whereas in 10.7% it was eczematous and pigmented. Subjects of trauma or cellulitis presented with red and edematous skin whereas in chronic cases of peripheral vascular disease the skin was pigmented and eczematous.^[7]

In the study, the causes in order of decreasing frequencies were diabetes (34.5%), traumatic (32.1%), venous and arterial (9.5% each), tropical (8.4%) and leprosy (6%). (Table 6)

Table 4: Distribution of subjects according to nature of discharge

Sl. No.	Nature	Total %
1	Serous	50.0%
2	Sero-sanguineous	17.9%
3	Purulent	15.5%
4	No	16.6%
Total		100%

Table 5: Distribution of subjects according to site of wound

Sl. No.	Site	Total %
1	Trunk	1.2%
2	Thigh	3.4%
3	Leg	26.2%
4	Foot	52.4%
5	Back	2.4%
6	Chest	1.2%
7	Abdomen	1.2%
8	Hips	2.4%
9	Forearm	3.6%
10	Arm	6.0%
Total		100

Table 6: Distribution of cases based on the type of Wound

Sl. No.	Type of Wound	Total %
1	Diabetic	34.5%
2	Traumatic	32.1%
3	Tropical	8.4%
4	Venous	9.5%
5	Arterial	9.5%
6	Leprotic	6.0%
Total		100%

CONCLUSION

This non interventional study on the cases of chronic wounds gives an idea regarding the different presentations of patients of wounds along with their probable reasons. This knowledge is important before planning the treatment and hence is recommended.

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