A STUDY OF CLINICAL AND SURGICAL MANAGEMENT OF ULCERS

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ABSTRACT

BACKGROUND

Ulcer can be defined as discontinuity of the skin or mucous membrane which occurs due to microscopic death of the tissues. Anywhere in the body the ulcers are known to occur provided it has been covered by an epithelium. Ulcers can be classified based on the pathology or on the clinical features. No matter what kind of the ulcer is encountered the guidelines should be followed. The chances of developing venous ulcerations in a lifetime are around one percent. This study puts in a sincere effort to study the clinical and surgical management of different types of ulcers. This study is intended to help the practising surgeons to help them understand the clinical and surgical management of ulcers and also take necessary interventional actions as early as possible.

METHODS

This study was conducted in the Department of General Surgery, Government Medical College, Nizamabad, Telangana.

This study was conducted from September 2013 to July 2016. Three hundred twenty patients were included in the study who were admitted in the Department of General Surgery, Government Medical College, Nizamabad, Telangana.

All the patients were thoroughly clinically examined. Any systemic disorders were treated as per the requirement. The patients were given either medical line of treatment or surgical line of treatment which was best suited for them. The patients who were discharged from the hospital after the treatment of ulcer and their mode of treatment were noted and reported which was found to be successful. All the statistics were done using latest SPSS software 2015 (California).

CONCLUSION

This study helps us understand the most convenient way to manage the case of ulcers either clinically or surgically in a very efficient way. This study will definitely help the fellow practising surgeons to identify and also help them save time as in our study we have already discussed the best possible and easy ways to treat different cases of ulcer.

KEYWORDS

Clinical, Surgical, Ulcers, Venous ulcers, Diabetic ulcers.

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INTRODUCTION: Ulcer can be defined as discontinuity of the skin or mucous membrane which occurs due to microscopic death of the tissues. Anywhere in the body the ulcers are known to occur provided it has been covered by an epithelium. Ulcers can be classified based on the pathology or on the clinical features. Pathologically, it can be classified into broadly nonspecific ulcers, specific ulcers and malignant ulcers. In nonspecific ulcers, it can be further classified into traumatic ulcers, venous ulcers, arterial ulcers, neurogenic or trophic ulcers, tropical ulcers, diabetic ulcers and ulcers that are caused by blood dyscrasias. Traumatic ulcers can be caused by any mechanical trauma. It is the most common cause of ulcers. Burns, chemical or radiation burns also causes ulcers.

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Venous ulcers include varicose ulcers and post-thrombotic ulcers which is frequently encountered in deep vein thrombosis. The chances of developing venous ulcerations in a lifetime are around one percent.[1-6] Arterial ulcers are caused by poor blood perfusion. The following are the most common diseases encountered in this variety. Atherosclerotic causes, Hypertensive ulcers or Martorell's ulcers, Rheumatic arthritis ulcers, Raynaud's disease and Buerger's disease. The last two are due to vasoconstriction disorders. Neurogenic ulcers are often caused by peripheral neuropathy. It is often seen in chronic diabetic patients and leprosy. Tropical ulcer is almost frequently associated with malnutrition.

Diabetic foot ulcers are commonly seen in prolonged diabetic patients and frequently encountered due to peripheral loss of sensation and vascular disorders. Lastly, in blood dyscrasias like sickle cell anaemia and thalassemia, it is seen commonly due to occluding of peripheral vasculature. Specific ulcers include tubercular ulcers, ulcers caused by syphilis and so on. The malignant ulcers are due to malignant lesions as in squamous cell carcinoma, basal cell carcinoma, Malignant Melanoma and so on.

Clinically, it can be broadly classified into spreading type ulcers, Callus ulcers and healing ulcers. In spreading type of ulcers, the purulent smell will be often present, excessive slough and plenty of discharge will be often seen, almost no granulation tissue will be present and the borders will be inflamed. In callous ulcers, smell may be present or absent, slough may be present and often serous discharge is present, pale granulation tissue can be there but the classical picture is induration at the base. In healing ulcers, the smell is absent, slough will be absent with minimal serous discharge, red granulation tissue will be seen and signs of inflammation will be absent.

No matter what kind of the ulcer is encountered the guidelines should be followed. The location of the ulcers gives an important clue to the type of ulcers. Arterial type of ulcers are often seen in the tips of toes and fingers, venous ulcers are superficial and may be present in different parts of legs based upon the vein involved, non-healing ulcers are often seen on the bony prominences and so on. If red granulation tissue is present in floor of the ulcers, then it may be a healing ulcer, necrotic tissue if present it may be a spreading ulcer. Just by inspecting the floor of the ulcers, it is possible to differentiate the type of ulcers. The discharge from the ulcers also gives an important clue like if serous discharge is present then it may be a healing ulcer, if associated with bloody discharge then it may be a malignant lesion. The type of infection also can be diagnosed by looking at the colour of the discharge like in case of Pseudomonas infection the discharge will be green in colour.

The edge of the ulcers also can explain a lot of conditions like if destruction of the edges, inflamed and oedematous, then it is often spreading ulcers. If the margins are raised then it points in favour of basal cell carcinoma, everted edge is often seen in cases of squamous cell carcinoma. The surrounding tissue also should be inspected. The mobility of the ulcers almost pinpoints the diagnosis whether it is malignant or not. In clinical examination, it is important to look for regional lymph nodes enlargement, sensation loss should be checked and the peripheral vessels function should be checked. The complete systemic examination should be examined because of the fact that some ulcers will be having underlying pathological conditions which are central. In neuropathological ulcers, it may be associated with sensory loss which may be due to leprosy infection or it may be any pathology in the brain itself. So a complete clinical examination is always mandatory to be carried out if a case of ulcers presents itself in the OPD.

Lab investigations should include complete blood picture. Any blood abnormalities in the blood should be diagnosed and necessary interventions should be done. Appropriate treatment should be immediately started. The main strategy should include finding out the root of the disease and curing it as early as possible. Specific treatment of the specific diseases should be carried out. Like in case of arterial diseases, necessary interventions include stopping smoking in cases of peripheral vascular diseases to bypass surgeries. Superficial venous surgery comprising venous ligation, stripping, sub-fascial endoscopic perforator surgery [SEPS]) and compression bandage remain the mainstay of treatment.[7-11] If the ulcer is found to be malignant then immediately it should be taken up for surgery and the local infiltration should be checked.

This study puts in a sincere effort to study the clinical and surgical management of different types of ulcers. This study is intended to help the practicing surgeons to help them understand the clinical and surgical management of ulcers and also take necessary interventional actions as early as possible.

AIMS AND OBJECTIVES:

To study the clinical and surgical management of different types of ulcers.

MATERIALS AND METHODS: This study was conducted in the Department of General Surgery, Government Medical College, Nizamabad, Telangana. This study was conducted from September 2013 to July 2016. Three hundred twenty patients were included in the study who were admitted in the Department of General Surgery, Government Medical College, Nizamabad, Telangana. All the patients were thoroughly clinically examined. Any systemic disorders were treated as per the requirement. The patients were given either medical line of treatment or surgical line of treatment which was best suited for them. The patients who were discharged of the hospital after the treatment of ulcer and their mode of treatment were noted and reported which was found to be successful. All the statistics were done using latest SPSS software 2015 (California).

RESULTS:

	Mean Age of the Study Group
Age	58.11

Table 1: Mean Age of the Patient

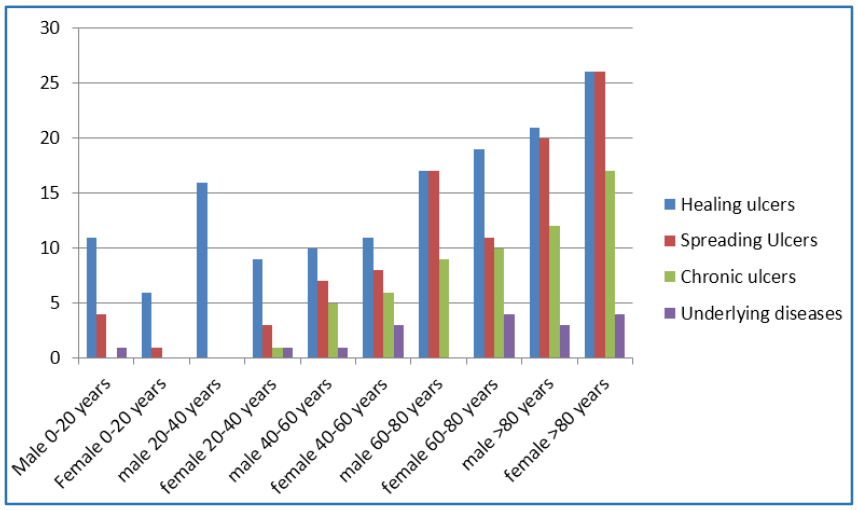

Fig. 1: Age and sex Wise Distribution of Disease Condition (n=320)

Ulcers	Mean Maximum Diameter	Floor	Discharge	Edge	Mobility
Healing Ulcers	6.4 cm	Red granulation tissue: In all 146 cases	Nil	Sloping edge in all 146 cases.	Full mobility
Spreading Ulcers	9.32 cm	-Slough: In all 97 cases	Pus: In all 97 cases	Red and oedematous in all 79 cases Raised margin in 9 cases. Everted edge in 7 cases Red and oedematous margins in 1 cases.	Fixed in 09 cases.
Chronic Ulcers	12.1 cm	Slough with pale granulation tissue: In all 60 cases	Pus in 62 cases Purulent serous mixed in 25 cases	Slough in the margins in all 60 cases	Mobility restricted because of callous in 21 cases.
Underlying Disease.	7.71 cm	Pale granulation tissues: In all 17 cases.	Seropurulent discharge: In all 17 cases.	Margins were oedematous: In all 17 cases	Mobility not restricted

Table 2: Ulcer Characteristics

Treatment Involved->->>	Hydrocolloid Dressings	Polymer gel Dressings	Gauge Dressings	Medicated Dressings	Vacuum Assisted Closure	Limited Access Draining
Type of Ulcers						
Healing Ulcers	Nil	11 (Mean diameter 6.8 cm)	117 (Mean diameter 5.9 cm)	18 (Mean diameter 7.4 cm)	Nil	Nil
Spreading Ulcers	17 (Mean diameter 7.8 cm)	Nil	Nil	80 (Mean diameter 9.1 cm)	Nil	Nil
Chronic Ulcers	Nil	Nil	Nil	41 (Mean diameter 10.76 cm)	17 (Mean diameter 11.63 cm)	02 (Mean diameter 13.9 cm)
Underlying Disease.	Nil	Nil	Nil	17 (Mean diameter 7.71 cm)	Nil	Nil

Table 3: Medical Line of Treatment

Surgery Involved->->	Skin Grafting	Revascularisation	Venous Stripping/ Anastomosis	Surgery Malignancy	Diabetic Foot Surgery
Type of Ulcers					
Healing Ulcers	Nil	Nil	Nil	Nil	Nil
Spreading Ulcers	07 (Mean diameter 10.4 cm)	Nil	Nil	18 (Mean diameter 11.7 cm)	Nil
Chronic Ulcers	24 (Mean diameter 10.82 cm)	02 (Mean diameter 4.23 cm)	14 (Mean diameter 11.3 cm)	Nil	26 (Mean diameter 8.9 cm)
Underlying Disease.	04 (Mean diameter 5.6 cm)	17 (Mean diameter 7.1 cm)	Nil	Nil	Nil

Table 4: Surgical Line of Treatment

DISCUSSION: In our present study, the mean age of the population was 58.11 years. The range of age the patients were from 6 years to 91 years. The ulcers were divided into healing ulcers, spreading ulcers, chronic ulcers and the ulcers caused by underlying diseases. The healing ulcers mean maximum diameter was found to be 6.4 cm. The floor of the ulcer consisted of red granulation tissue in all the 146 cases. The discharge was minimal to nil. Edges were of the sloping variety in all 146 cases. The mobility was not restricted. Out of the total, 11 cases which had the mean maximum diameter of 6.8 cm were treated with polymer gel resins. 117 cases which had the mean maximum diameter of 5.9 cm were treated by gauge dressings. 18 cases which had the mean maximum diameter of 7.4 cm were treated using medicated dressings. None of the cases were treated using surgical mode of treatment. The Spreading ulcers mean maximum diameter was found to be 9.32 cm. The floor of the ulcer consisted of slough in all the 97 cases. The discharge was found to be pus in all 97 cases.

Edges were of the red and oedematous in 79, raised margin in 9 cases and everted edge in 7 cases and red and oedematous margins in one case. Mobility was fixed in 9 cases. Out of the total, 17 cases which had the mean maximum diameter of 7.8 cm were treated with hydrocolloidal dressings. 80 cases which had the mean maximum diameter of 9.1 cm were treated by medicated dressings. 7 cases which had the mean maximum diameter of 10.4 cm were treated using skin grafts, 18 cases with a mean maximum diameter of 11.7 cm were treated for surgical mode for malignancy. The chronic ulcers mean maximum diameter was found to be 12.1 cm. The floor of the ulcer consisted of slough with pale granulation tissue in all 60 cases. The discharge was found to be pus in 62 cases and purulent serous in 25 cases. Slough in margins was in 60 cases. Mobility was restricted because of callous in 21 cases. Out of the total, 41 cases with a mean maximum diameter of 10.76 cm were treated with medicated dressings, 17 cases which had the mean maximum diameter of 11.63 cm were treated by vacuum assisted closure.

2 cases which had the mean maximum diameter of 13.9 cm were treated with limited access draining. Out of the total, 24 cases with a mean maximum diameter of 10.82 cm were treated using skin grafts, 2 cases with a mean maximum diameter of 4.23 cm were treated with revascularisation surgery. 14 cases with a mean maximum diameter of 11.3 cm were treated with venous stripping or anastomosis. 26 cases of mean maximum diameter of 8.9 cm were using diabetic foot surgery. The underlying disease that causes ulcers had a mean maximum diameter of 7.71 cm. The floor of the ulcer consisted of pale granulation tissue in all 17 cases. The discharge was found to be seropurulent in all 17 cases.

Oedematous margins were in all 17 cases. Mobility was not restricted in all 17 cases. Out of the total, all 17 cases with a mean maximum diameter of 7.1 cm were treated with medicated dressings. Out of the total, 4 cases with a mean maximum diameter of 5.6 cm were treated using skin grafts, 17 cases with a mean maximum diameter of 7.1 cm were treated with revascularisation surgery. The study focuses on the type and different characteristic features of each type in day to day surgery practice. The antibiotic treatment that was given orally was not considered for the study. The general mode of treatment which may include medical line and surgical lines of treatment are discussed and elaborated in this study.

CONCLUSION: The study lays a solid foundation for further such studies across the country. Individual type of ulcers has been reported as case studies, but very less studies have been done on the complete set of ulcers that was presented in the hospital. This study helps us understand the most convenient way to manage the case of ulcers either clinically or surgically in a very efficient way. This study will definitely help the fellow practising surgeons to identify and also help them save time as in our study we have already discussed the best possible and easy ways to treat different cases of ulcer.

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