

TROPICALOID ULCER : CASE REPORTS

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Summary

11 Cases of Tropicaloid Ulcer have been described and diagnosis discussed. Role of treatment with broad spectrum antibiotics has been emphasised and protective measures to prevent their recurrence mentioned.

Introduction

A variety of ulcers is found in tropical countries. Some such as oriental sore (Leishmaniasis), Desert sore, Ulcus tropicum and ulcers due to yaws are seen only in tropics. Amoebic ulceration, ulcers associated with sickle and target cell anaemia are more common in the tropics but may be found elsewhere. Some such as syphilitic ulcers have a worldwide distribution. Ulcus Tropicum occurs very commonly throughout the hot and humid tropical regions. It has acquired in different parts of world—numerous local names, and there are many minor differences in their clinical features and course, which probably correlate with variations in the relative predominance of one or more of multiplicity of causative factors¹. In troops under conditions of jungle warfare, tropical ulcers may be infrequent and cause serious disability even when their nutritional standards are high. The main microbial agents in Tropical phagedenic ulcer are fusiform bacilli and spirochetes. A wide variety of other organisms may also be present. Many earlier reports of Tropical ulcer are likely to have included unrecognised

specific mycobacterial infections. In some areas of the Tropics chronic skin ulcers caused by mycobacteriae are common. Most patients with mycobacterial skin ulcers present with a single cutaneous ulcer which is painless and which has a characteristic undermined edge².

Distinction between these ulcers and Tropical ulcers is seldom difficult since Tropical ulcers are painful, do not have undermined edges, and are rarely seen above the knee.

Other microbes apart from fusiform bacilli and spirochaetes invoked as causes of ulcers are coccobacillary organisms which are gram negative and labelled mycobacterium mycetoidis by Castellani. Ulcers caused by these have been described by him as a separate entity under the heading of tropicaloid polyulcer. Morphologically these resemble desert sores³.

Castellani originally described this ulcer in 1942⁴. The synonyms for this are tropicaloid polyulcer, mycetoidis desert sore, superficial Tropical Oasis ulcer, Marmarica ulcer, Castellani ulcer and "L. Ulcera che dure" (lasting ulcer)⁵. This condition is separate aetiologically and clinically from Tropical ulcer⁶.

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The first lesion in the majority of cases is superficial vesicle. This rapidly develops into a large vesicle or a bulla which after 3-4 days ruptures forming a superficial ulcer by a process of necrobiosis. The ulcer seldom goes very deep.

Histologically, the loss of substance in the corium is usually surrounded by a zone of infiltration consisting of polymorphonuclear leucocytes, lymphocytes and plasma cells. The margins often show acanthosis. In films made from the contents of an intact vesicle small gm - ve coccoid or coccobacillary organisms are seen. In the open sores abundance of associated flora makes isolation of *M. Mycetoides* difficult. The usual associated flora are *S. Albus*, *S. Aureus*, *S. Citreus* and *Diphtheroid* bacilli. Experimental reproduction of the ulcer has been carried out in human volunteers.

The condition is usually not seen in its early stage. The ulcer is seldom painful but may be tender on pressure. Pruritus is usually absent and there is no regional lymphadenopathy. The site of predilection is the lower 2/3rd of leg but ulcer may be found on the feet, hands, arms and any other part of the body. The duration of ulcer is seldom less than three to six months, occasionally a year or longer. The ulcer on healing leaves a scar which is generally hyperpigmented. Atypical varieties include superficial type, plaque and nodular type, eczematoid crusted and generalized pyodermic type. In the infiltrated nodular type there is an infiltrated patch with reddish smooth surface on which occasionally minute ulcers form. Complications are extremely rare.

In addition to Libya and cyrenaica, a few cases have been described in Italy, Spain, Portugal and Ceylon. The treatment that gave the best results in Castellani's cases was rest and local antibiotics.

Eleven cases were encountered recently which conformed to the Tropical ulcer of Castellani.

The purpose of presenting these cases is to elucidate the good prognosis of such cases, their response to prolonged antibiotic therapy and emphasise the measures to be taken to prevent their occurrence specially during operations.

Case Reports

This study comprises of eleven healthy males, seen at M. H. Dehradun, who presented with skin ulceration. Of these 10 had single and one had multiple ulcers. Duration of ulcers varied from four to ten months.

All patients gave history of operational service at Ferozpur sector and belonged to one of the two units operating in the same sector. Detailed description of the ulcer and their duration is given in Table 1.

All denied history of injury but admitted minor scratches from bushes which were abundant in that area while taking part in operations. There was no history of Diabetes, Tuberculosis, Leprosy, Syphilis or any other systemic disease. Their general health was good and systemic examination did not reveal any abnormality. Smear from the ulcer as well as culture of pus was sterile in 2 cases. In 4 cases only anaerobic staphylococci were grown. In remaining 5 cases, however, no growth appeared when the pus was cultured on ordinary agar medium but on addition of 1% trypsin in agar, growth was obtained in the form of dew drop colonies. Microscopic examination from the growth showed coccobacillary organisms which were gram negative. Production of yellow pigment was a feature in all these 5 cases when cultured on glucose agar. Repeated scraping from the ulcers did not reveal any A. F. B. Curetting of the sides of bases of ulcers did not show

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TABLE 1
Details of cases of Tropicaloid Ulcer

Case No.	Duration of ulcer	Site and number	Description of ulcers and associated findings	Duration of treatment	Remarks
(a)	(b)	(c)	(d)	(e)	(f)
1.	8 months	Rt Forearm (Anterior aspect) Single	Started as a small nodule which gradually increased in size (2 x 2.5 x 1.5 cm) and then ulcerated. Roundish margin. Slightly raised, edge erythematous. Slightly tender on pressure. No pruritis. No axillary lymphadenopathy.	53 days	Gram negative coccobacillary organisms cultured. Production of yellow pigment when cultured on glucose agar
2.	10 months	Base of left thumb Single	Started as nodule gradually increased in size (3 x 2.5 x 1.5 cm). Margin slightly raised and infiltrated. Tender on pressure. Floor granulating	64 days	Coagulase negative staphylococci grown
3.	4 months	Ulcer over right ring finger. Single	Started as a vesicle followed by serous discharge and then developed ulcer. (Size 2 x 2 x 1 cm)	79 days	Coagulase negative staphylococci grown
4.	10 months	Single Ulcer on the root of nose and the inner aspect of left eye	Started as a papule followed by ulceration. (Size of ulcer 2.5 x 1 x 1 cm) roundish. Margin slightly raised. Edge erythematous. Slightly tender on pressure. No pruritis. No cervical lymphadenopathy.	115 days	Gram negative coccobacillary organisms cultured. Production of yellow pigment when cultured on glucose agar.
5.	10 months	For ulcers (Ulcer on right hand, right forearm and left hand)	Developed papular lesion on the right forearm followed by similar lesions in the adjacent skin and left hand. Four ulcers of varying sizes as follows: <ol style="list-style-type: none"> 1. 3 x 3 cm. circular on the forearm. 2. 2 x 2 cm. circular on the outer aspect of right wrist. 3. 3 x 3 cm. oval on the dorsum of right hand. 4. 1½ x 1½ cm. oval at the interdigital cleft between index and middle finger on left hand. <p>Depth of ulcers about 1 cm each. Ulcers with crusting and scaling. Edge erythematous and indurated. Base not indurated. No regional lymphadenopathy. No itching. No discharge at present and no anaesthesia.</p>	70 days	Gram negative coccobacillary organisms cultured. Production of yellow pigment when cultured on glucose agar.

TABLE 1 (contd)

Case No.	Duration of ulcer	Site and number	Description of ulcers and associated findings	Duration of treatment	Remarks
(a)	(b)	(c)	(d)	(e)	(f)
6.	8 months	Single Left elbow (Posterior aspect) (Fig. Page No. 47)	Developed a blister followed by serous discharge and then developed ulcer (size 6 x 6 x 1 cm). No itching. Slightly indurated. No serous discharge at present. No regional lymphadenopathy.	41 days	Gram negative coccobacillary organisms cultured. Production of yellow pigments when cultured on glucose agar.
7.	7 months	Single ulcer Chin (left side)	Developed vesicle followed by ulceration and discharge of pus. (Size of ulcer 1 x 2 x 2 cm) Edge erythematous and indurated. No discharge at present. No itching. No anaesthesia. No regional lymphadenopathy.	92 days	Gram negative coccobacillary organisms cultured. Production of yellow pigments when cultured in glucose agar.
8.	7 months	Single ulcer Right hand (Dorsum)	Developed vesicle followed by ulceration and discharge. Edge erythematous. No itching. No regional lymphadenopathy.	39 days	Coagulase negative staphylococci grown.
9.	8 months	Single ulcer Right forearm	Developed a papule followed by ulceration (size 2 x 2 x 1.5 cm) Circular, edge erythematous and indurated. No itching. No anaesthesia. No regional lymphadenopathy.	17 days	Culture sterile
10.	9 months	Single ulcer Right leg	Developed blister followed by serous discharge and then ulcer. (Size 2.5 x 3 x 2 cm). No regional lymphadenopathy.	60 days	Coagulase negative staphylococci grown
11.	8 months	Single ulcer Forearm	Developed vesicle followed by ulceration (size 1½ x 1½ x 1 cm.) Edge erythematous and indurated. No regional lymphadenopathy.	16 days	Culture Sterile

Leishmania Tropica. Blood serology of WR, Kahn, and V. D. R. L. and total blood proteins and A. G. ratio were normal in all cases. X-rays of chest were normal. Histopathology of the margin of the ulcer revealed acanthosis, necrotized tissue and an inflammatory reaction in the deeper zones. Beneath the area of necrosis was a zone of granulation tissue with polymorphonuclear leucocytes, lymphocytes and a few plasmas cells but no giant cells.

The cases were treated initially with a course of pencillin and streptomycin for varying periods of 2-3 weeks but response was poor. All those cases were put on local therapy in the form of scraping of exuberant vegetations, touching with silver nitrate 1% after cleaning with hydrogen peroxide and 3% chloramphenicol ointment (Ung. chloromycetin) without any response. When put on oxytetracycline (Terramycin) capsules 1 gm. daily orally, there

was no response initially but when continued for a variable period of 16 to 115 days ulcers showed signs of healing. Maximum time taken for healing was 115 days. The dose of oxytetracycline was reduced to 750 mg. daily after 2 weeks and to 500 mg. daily after 5 weeks. Ulcers on healing left residual scarring and hyperpigmentation except in one case where there was no hyperpigmentation. Further follow-up of these cases for a period of two years did not cause any recurrence at the affected sites or development of further ulceration at other sites.

Discussion

The diagnosis of tropicaloid ulcer in this series of 11 cases has been arrived at by exclusion of other causes, their clinical features, histopathology and the course of ulcers. In two of the cases lesions started as a nodule, in four as papule and in five as vesicle but in all the end result was chronic ulceration. None of the present series of cases showed eczematous crusted type or generalized pyodermic type of lesions. The organisms described are difficult to find except in early vesicular stage, could only be demonstrated in five cases as these were seen after more than 4 months after initial lesion and had already received antibiotics. Only associated flora were found in four cases while the culture was sterile in remaining two cases. This was presumably the reason for inability to culture secondary organisms in these two cases. The condition from which these ulcers are to be differentiated chiefly are (1) the true Tropical ulcer or Tropical phagedenic ulcer. This is a much more serious condition which rapidly extends in depth and surface, often becoming phagedenic. The ulcerative process is much deeper than tropicaloid ulcer, frequently exposing deep structures including tendons and bone.

Its course is prolonged to 2-3 years or longer and is seldom multiple. (2)

Veldt sore is very painful and tender. The floor of the ulcer may be covered by a diphtheric membrane. (3) Chief types of pyoderma i.e., impetigo and ecthyma generally heal within 2-4 weeks and show on bacteriological examination the usual pyogenic cocci. Septic sore is generally rather superficial, roundish or oval. One variety of septic sore or septic ulcer which may closely resemble tropicaloid sore is the so called "Goodman's chronic streptococcal ulcer" characterised by the presence of streptococci and staphylococci while micrococcus (coccobacillus) Mycetoidis are absent.

In all these cases the general health of the patient was not affected.

Treatment as suggested by Castellani in the form of rest and local antibiotics did not cause healing in our case and only with prolonged broad spectrum antibiotics therapy did these cases respond. Local therapy is thus insufficient in itself for their healing. There was no recurrence during the follow up period of two years although these cases were subjected to minor trauma while taking part in operations. The spontaneous healing of the tropicaloid ulcers as mentioned by Domonkos⁸ has not been the experience in these cases although the series of cases is small.

Prophylaxis is important to prevent the development of such ulcers. The slightest wound so often brought about by spines and stiff of the shrubs often encountered in operational areas should be immediately cleaned with soap and disinfected by painting with Tr.iodine or fuchsin paints. Long trousers should be worn instead of shorts. Adequate protection also should be taken against minor injuries and insect bites.

Conclusion

11 cases of "Tropicaloid ulcer" have been described which are often confused

with Tropical ulcer and the role of treatment with prolonged broad spectrum antibiotic therapy has been stressed. Protective measures to be taken to prevent their occurrence specially in operations have been emphasised.

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