

GRANULOMA VENEREUM (GRANULOMA INGUINALE) IN ZAMBIA

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SUMMARY

Granuloma venereum (granuloma inguinale) is a venereal disease of low contagiousness caused by a gram-negative bacillus *Donovania granulomatis*. Except for an earlier report from Zambia, the disease has not received the attention it deserves in tropical Africa. There is a general lack of awareness of the disease in this region.

This study is a more detailed report on the clinicopathological presentation of the disease in 40 patients encountered over a period of three-and-a-half years in Zambia.

INTRODUCTION

Granuloma venereum (granuloma inguinale) is a venereal disease of low-grade contagiousness affecting both sexes during their reproductive life (1, 2, 3). The genital organs are the primary site of the lesions although extragenital lesions have also been described (4).

The causative organism is a gram-negative, pleomorphic bacillus, *Donovania granulomatis* (5). The exact bacteriological status of the organism is still undecided although its aetiological association with the disease is no longer questioned (3, 5, 6).

The disease is claimed to be common in the tropics and subtropics, especially in Brazil, the West Indies, Asia, and the Southern United States, where it is common in the negro (4).

Little attention has been paid to the epidemiology of the disease in Africa. An earlier report (6), prior to which the disease had been unrecognized, showed that the disease was endemic in Zambia. Since then many more cases have been seen in our histopathology diagnostic service and some are now being recognized clinically. It is clear, however, that the diagnosis is being missed in the majority of cases.

In view of the paucity of literature on this condition from Africa and the lack of awareness of its occurrence in this region we felt it desirable to report our further experience with the disease in Zambia.

MATERIALS AND METHODS

This study includes all cases of granuloma venereum diagnosed on histopathological examination in our laboratory over the period January 1973–June 1976. In all cases the original histology sections and paraffin-embedded tissue were available for review. Wherever necessary extra sections were prepared and, whenever granuloma venereum was suspected, sections were stained by the silver methenamine method and with Giemsa stain. All cases included in this study were positively diagnosed by the identification of Donovan bodies in tissue sections (Fig. 1).

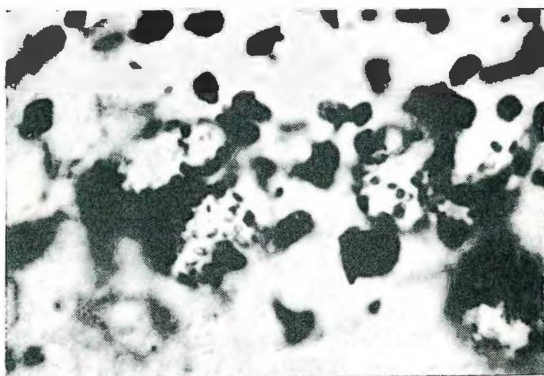


Fig. 1

Several macrophages packed with typical Donovan bodies. The closed-safety-pin appearance is clearly seen. Silver methenamine $\times 2500$

Subsequently an attempt was made to correlate the age, sex, and clinical presentation of each case as reported on the request form. This was not always possible as clinical details supplied from outlying hospitals were often incomplete if not totally lacking.

RESULTS

During the three-and-a-half-year period we encountered 40 cases of histologically proven granuloma venereum. Twenty-five cases were from the University Teaching Hospital (UTH), while the remaining 15 cases were from various outlying hospitals. There was no evidence of clustering of cases in any one geographic locality. That more than half the cases were from the UTH might be explained by the better facilities, greater awareness of the disease, and readiness of surgeons to biopsy suspicious lesions. Moreover UTH is regarded as a referral centre and many cases are referred from outlying district hospitals. The remaining 15 cases showed random scattering through the southern, central, eastern, and northern provinces of Zambia indicating the widespread endemic nature of the disease.

Age and sex

The age and sex distributions of the cases are shown in Table 1.

Table 1
*Age and sex of cases of granuloma venereum
in Zambia.*

Age	Female	Male	Total
11-20	10	1	11
21-30	7	3	10
31-40	2	—	2
41-50	1	—	1
Unknown	15	1	16
Total	35	5	40

There were 5 males and 35 females. This female preponderance is not unusual, as granuloma venereum is commoner in females.

Unfortunately the age was only recorded in 24 cases. Of these nearly 88% (21/24) were under 30 years old. Nearly 46% (11/24) of the cases were under 20, indicating that in Zambia the disease affects a young age group.

Presenting lesions

All the males presented with lesions on the prepuce (Fig. 2). These were described as chronic non-healing ulcers and in all of them carcinoma of the penis was suspected. Granuloma venereum was not suspected at all. It was not possible to ascertain the extent and severity of involvement in three of the five cases.

The presentation in females was more variable. The majority presented with a non-healing ulcer or ulcers on the vulval and perineal area (Fig. 3). From our observations, it was obvious that the early lesions were neglected by the patients and that they sought medical care late. In fact seven cases with vulval ulcers in a relatively early stage were discovered incidentally on routine examination in the antenatal clinic (Fig. 3). In several patients the presenting lesions were sufficiently extensive to justify a diagnosis of malignancy (Fig. 4).



Fig. 2

A typical lesion of granuloma venereum involving the prepuce.

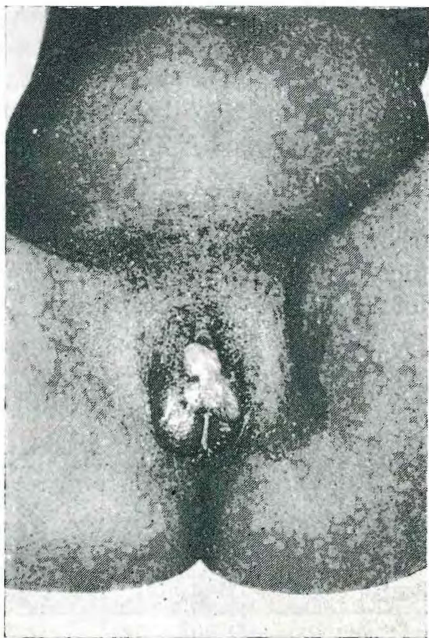


Fig. 3

A fairly advanced lesion of the vulva discovered incidentally in a pregnant woman, which was suspected to be malignant.

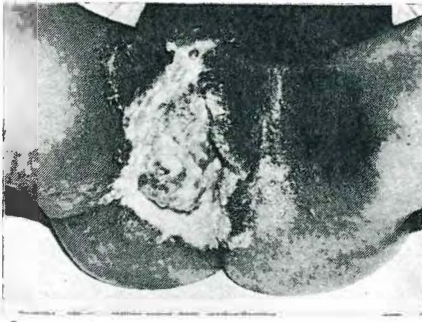


Fig. 4

Advanced lesion of granuloma venereum. In spite of the suspicious nature of the lesion there was no evidence of malignancy.

Histopathology

To the unsuspecting, the histopathological appearances of granuloma venereum are not unlike those of non-specific chronic inflammation (4). In the active lesions, however, especially of the vulva and prepuce, there are features which are constant enough to raise the suspicion of granuloma venereum.

The overlying epidermis is usually thinned out or even denuded, producing an ulcer (Fig. 5). Pseudoepitheliomatous hyperplasia with atypical cell nests, mimicking malignancy, has been described as a fairly typical reaction (4), but it has not been a prominent feature in our cases.

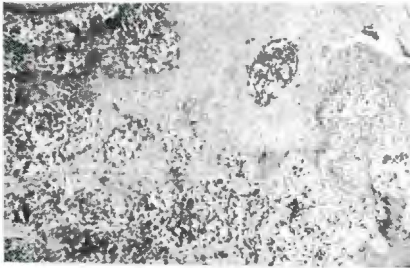


Fig. 5

Superficial epithelial changes in granuloma venereum with areas of acanthosis, thinning of rete ridges, and pseudoabscesses in the epidermis. (Haematoxylin and eosin $\times 100$)

There may be irregular acanthosis at the margins or of the overlying intact epidermis. The rete ridges are irregularly lengthened with pockets of inflammatory cells trapped between the epithelial columns. In this area the predominant inflammatory cells are polymorphonuclear leucocytes. Focal collections may resemble microabscesses (Fig. 5). Underlying this there is usually prominent, exuberant granulation tissue which is rich in newly formed vessels and which is infiltrated by mixed

inflammatory cells, chiefly polymorphonuclear leucocytes with variable numbers of histiocytes and lymphocytes (Fig. 6). In the deeper dermis focal collections of lymphocytes and plasma cells are more prominent. The single most important diagnostic feature, however, is the demonstration of Donovan bodies within the histiocytes. (Fig. 1). Although these are faintly visible with routine haematoxylin and eosin stains, they are more clearly demonstrated by silver impregnation technique (4).

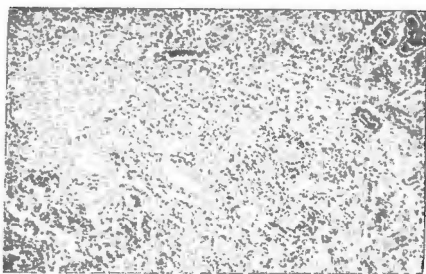


Fig. 6

The rich vascularized granulation tissue of an established lesion of granuloma venereum. (Haematoxylin and eosin $\times 100$)

In contrast with the experience of Stewart (7) we have not found Giemsa stain helpful in demonstrating Donovan bodies. On the other hand, again unlike his experience, we have been able to identify them readily with silver stains.

DISCUSSION

Granuloma venereum is claimed to be a venereal disease of low contagiousness in tropical and subtropical zones. Although it is claimed to be common in parts of Africa (8), little attention has been paid to the epidemiology and incidence of the disease in Africa. A search of the literature failed to produce any substantive report on the subject in tropical Africa. Indeed, the most recent relevant literature on the subject appears to be that of Stewart (8) and Douglas (2).

The frequent misdiagnosis and failure to consider granuloma venereum as a differential diagnosis of suspicious lesions in Zambia tends to support our impression that the prevalent view is that the disease is rare here.

An earlier paper by one of us (6) was the first report of the disease in Central Africa. It also indicated that the disease was endemic in Zambia. The present study confirms this opinion. Since the original report, and due to the greater awareness of the disease both in our laboratory and by the UTH gynaecologists, we have been able to collect 40 cases in three-and-a-half years whereas only 6 cases had been diagnosed in this laboratory over a five-year period 1968–1972 (6).

As indicated earlier the disease is not restricted to one area of Zambia. It is obvious too that only a small number of the cases in country areas are being diagnosed. Our total of 40 cases over three-and-a-half years is

therefore not intended to indicate the true incidence but to emphasize that the disease is endemic in Zambia.

The lack of awareness of granuloma venereum in tropical Africa is probably related to the greater prevalence of other venereal diseases, especially syphilis, with which the early stages of granuloma venereum may be confused. The later lesions of granuloma venereum are easily confused with malignancy. As carcinoma of the genital tract is the commonest cancer in Zambia (9), it is not difficult to understand the frequent misdiagnosis.

Consequently granuloma venereum is not infrequently a diagnosis made by the histopathologist. Awareness of the disease is the first essential for a correct diagnosis. The presence of exuberant granulation tissue with prominent polymorphonuclear leukocytes and variable numbers of macrophages should alert the pathologist to the possibility of granuloma venereum. Silver methenamine stains should be routinely employed on all suspicious lesions in an attempt to identify intracytoplasmic Donovan bodies whose presence establishes the diagnosis. A careful and patient search may be necessary, as the prominence and numbers of Donovan bodies vary from case to case. Failure to establish the diagnosis in the early stages may lead to considerable tissue destruction and mutilation (Figs 4, 5) with their attendant serious complications.

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