SCLEROMA IN UGANDA*

By P. E. ROLAND (Rugby)

SCLEROMA is common in North Africa and numerous papers about it have come from Egypt (e.g. Handousa and Elwi) and Morocco (Ardoin *et al.*, Jolly). In South Africa it appears to be very rare and a single case in an Indian boy who had spent some time in India was reported in 1956 as the first case seen in the Union of South Africa (Becker and Dorfman). Until recently it was also considered to be rare in tropical Africa and Kafero reported the first case from Uganda in 1951. Clifford saw only two cases in Kenya during the past seven years. Fain and Falaise reported 4 cases from Ruanda-Urundi which were seen within four months and they thought that it was a more common, but often missed condition in that part of Africa. Vervoorn and de Jager report a single case from Ghana. Martinson saw 6 cases in Nigeria during the past two years. When I came to Uganda in 1957 it was a well-recognized condition among the general surgeons who until then had also dealt with all E.N.T. conditions. During my two years' stay in Uganda I saw 16 histologically proved cases of scleroma. Of 13 of these cases I have a record of the tribe they belonged to and 9 came from the Western part of the country or the neighbouring Ruanda-Urundi, i.e. four being from Ruanda, one a Nyarwanda, two Mukizas and two Munyankoles. Two were Muganda who form the main population around Kampala and only two Atesos came from the North-Eastern part of Uganda.

Kouwenaar states that the clinical picture of scleroma varies in different countries and I, therefore, think it worth while describing the cases seen in Uganda. Typical infiltration of the sub-mucosal tissue was seen in 13 cases (Figs. 1 and 2)—in some it was localized to the anterior nares, in others it extended backwards as far as the post-nasal space and in these cases marked infiltration around the Eustachian cushion was common. The soft palate was infiltrated in six cases. There was marked ulceration of the soft palate extending forward from the uvula in two cases (Fig. 4). The only other reference to this ulceration of the oral surface of the soft palate I could find was in Kafero's paper which also dealt with a case in Uganda. Whether this is simply a manifestation of the disease or possibly caused by uvulectomy, a native treatment for a variety of symptoms (Jarvis and Mwathi), I do not know. One patient had a web across the left nostril

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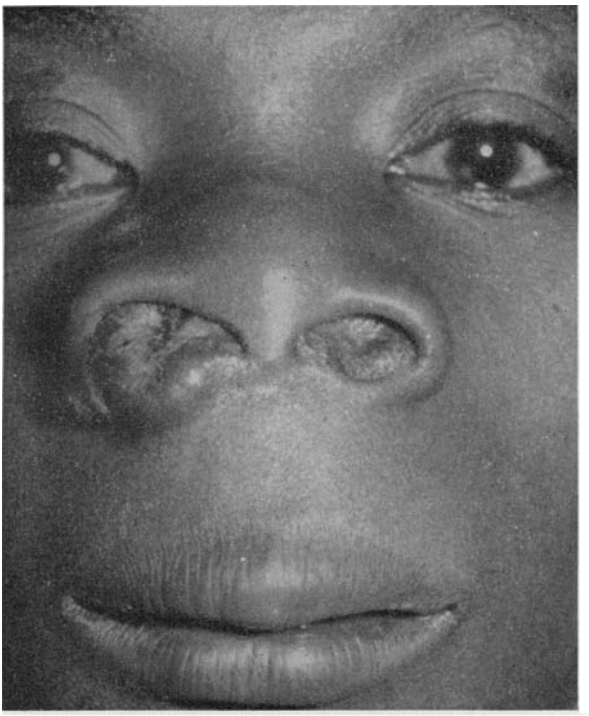


FIG. 1.
Scleroma of nose.

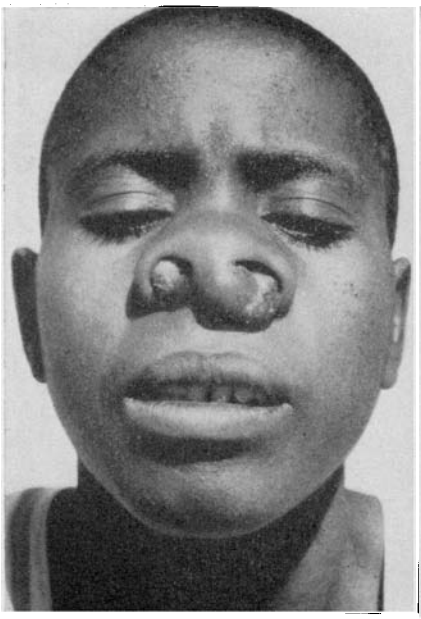


FIG. 2.
Scleroma of nose.

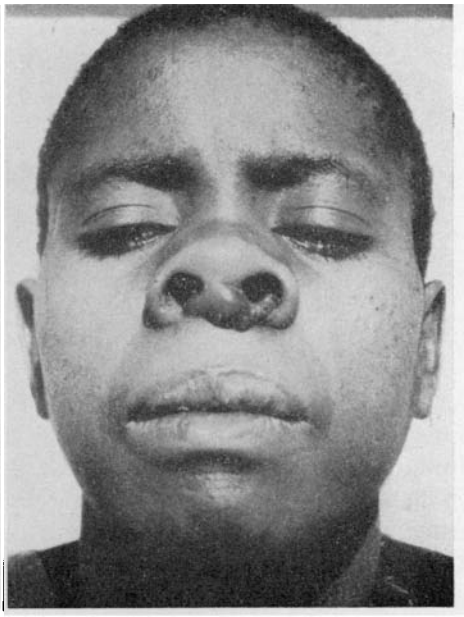


FIG. 3.
Same patient as Fig. 2, after treatment.

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which occluded it completely. On the outer surface was normal squamous cell epithelium, on its deep surface typical scleromatous tissue with Mickulicz cells (Figs. 5 and 6). Except on the vestibulum this side of the nose showed no macroscopic involvement while the other side was infiltrated all along the inferior turbinate and septum to the posterior choana. In one case

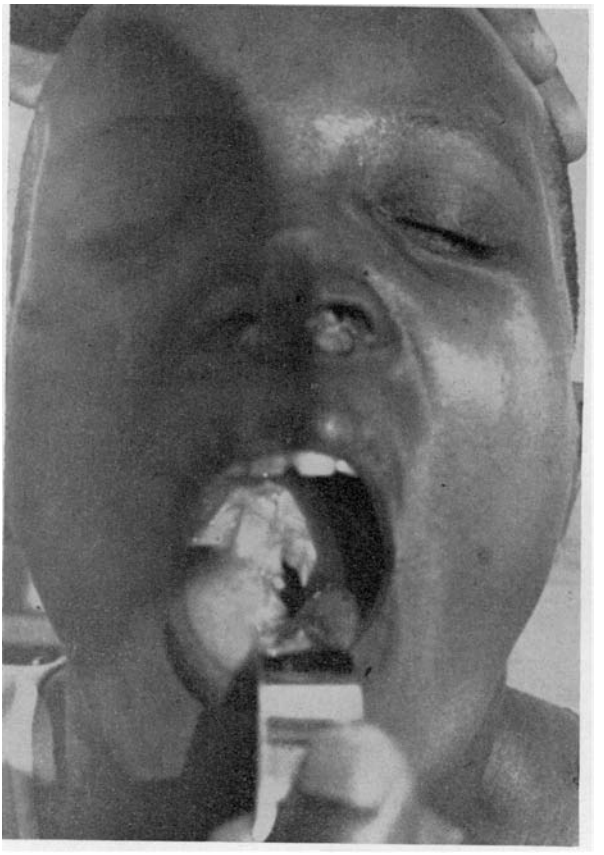


FIG. 4.
Ulceration of soft palate in scleroma.

not only the nares were infiltrated (Fig. 7), but the infiltration had spread to the alveolus (Fig. 9) with marked bone destruction (Fig. 11 and 12) similar to a case described by Handousa and Elwi. This was the only case which showed involvement of the larynx, a small scleromatous nodule being present just above the right vocal cord. None of the other cases showed laryngeal involvement and the trachea was not affected clinically in any of my cases. Kouwenaar had previously reported that laryngeal scleroma was rare in East Africa. Three patients presented with different

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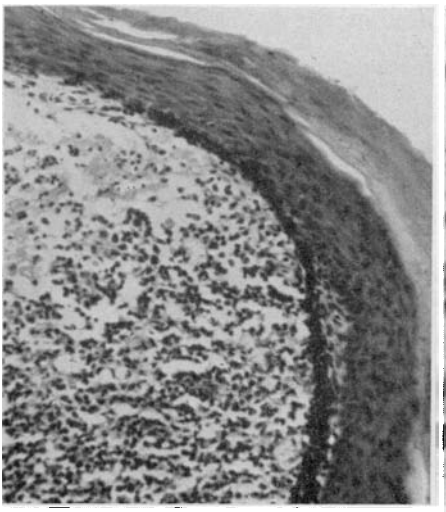


FIG. 5.
Section of web occluding nostil in a case of scleroma. Scleromatous tissue covered by squamous cell epithelium.

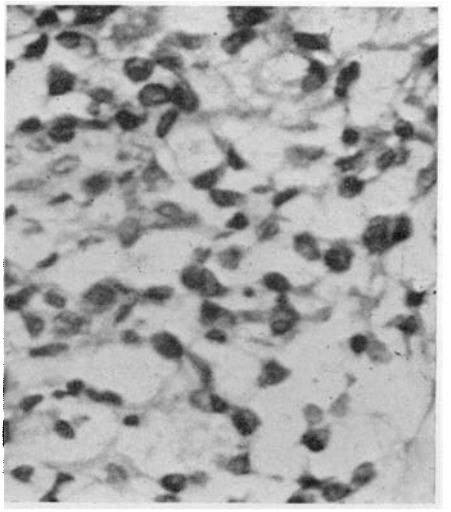


FIG. 6.
Higher power view of Fig. 5.

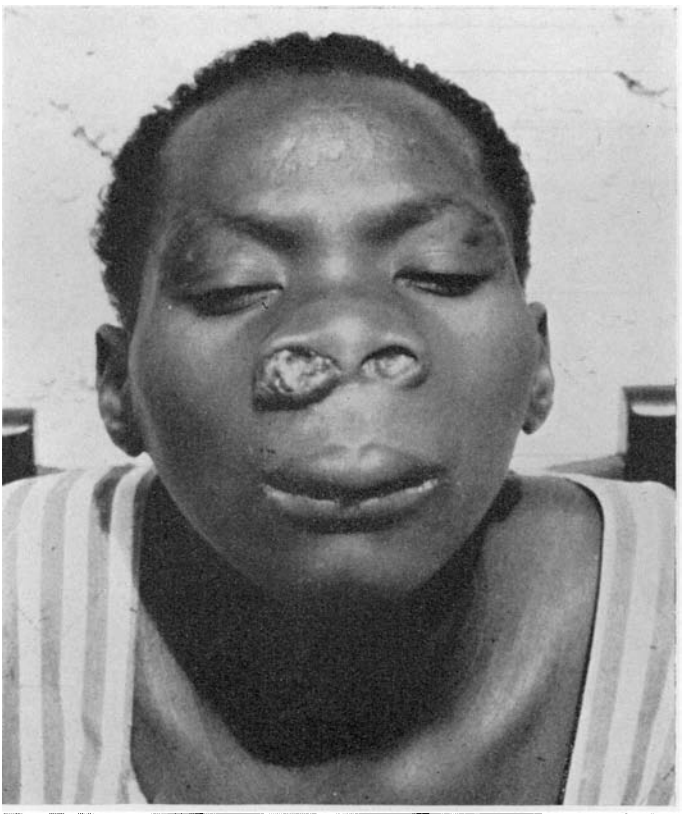


FIG. 7.
Patient with scleroma involving nose and alveolus. Note swelling of upper lip caused by underlying involvement of alveolus.

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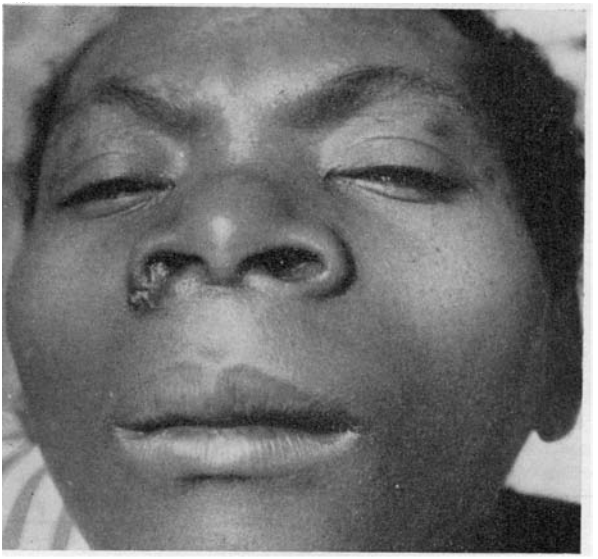


FIG. 8.
Same patient as Fig. 7, after treatment.

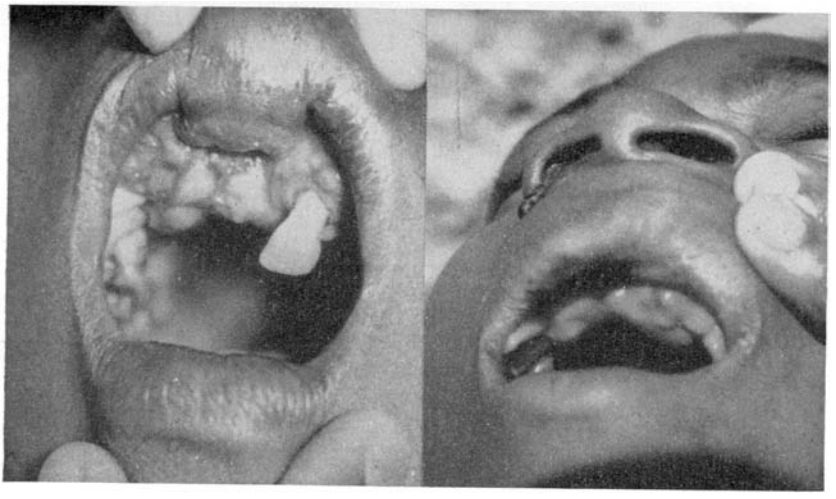


FIG. 9.
Ulceration of upper alveolus in same patient as Fig. 7.

FIG. 10.
Same as Fig. 9, after treatment.

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appearance, two had an excessive airway with crusting and with granulations on the nasal septum which histologically were typical scleroma. The last patient had a single large polyp in the post-nasal space which on section was typical scleroma and the removal of which relieved the patient of all his symptoms.

The routine treatment of these patients was one week's pre-operative treatment with streptomycin or tetracycline, resection of the obstructing

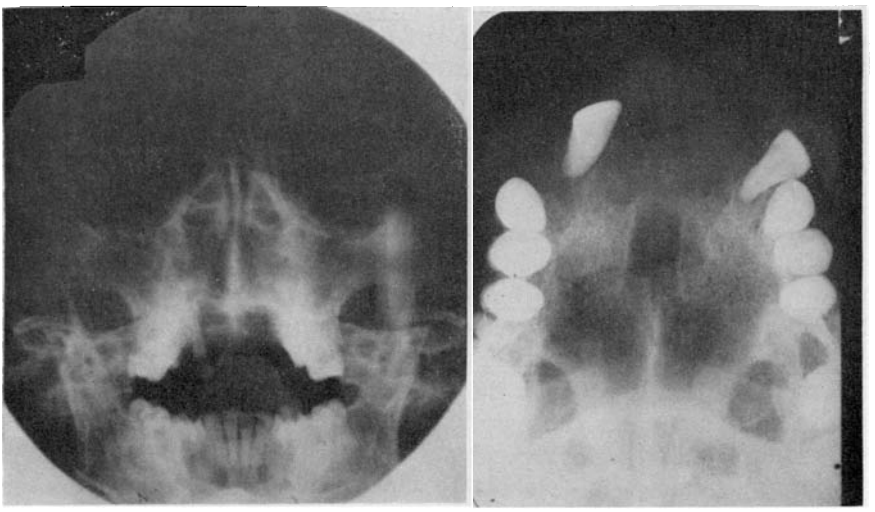


FIG. 11. FIG. 12.

Xrays of patient shown in Fig. 7.

tissue followed by a few more days' treatment with antibiotics. At first long post-operative courses of antibiotics were given, but when it was found that the typical capsulated organisms had disappeared after only a few days' treatment with streptomycin or tetracycline the course of antibiotics was reduced to 10 or 14 days. Excessive tissue was excised, at first only the minimum, but as increased experience showed how well these lesions healed, as much was excised as was thought necessary to produce a good functional and cosmetic result. (Figs. 2 and 3, 7 and 8, 9 and 10.) This is easy on the nostrils, but more difficult within the nasal passages where the inferior turbinate and septum were at times adherent to one another. It may be of interest that before my coming to Uganda the general surgeons used simple hollow tubes to bore an airway through the occluded nostrils with apparently satisfactory results. Whether the combination of surgery and short systemic courses of antibiotics produced a cure or only temporary relief, I am unable to say as my stay in Uganda was only two years. During this time, however, none of my patients nor

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any of those treated previously by the general surgeons returned with a recurrence of symptoms. Karen at Brno University investigated the recurrence rate of scleroma and found that this was 16 per cent. in cases treated with streptomycin in doses varying from 15 to 160 grammes and 40 per cent. in cases not treated with antibiotics.

Only six cases were investigated bacteriologically and in three capsulated organisms of the Friedlander type were found. Similar organisms were found in three cases of atrophic rhinitis, but they differed in their biochemical reactions in so far that the scleroma organisms did not ferment lactose while all the ozæna ones did, producing acid, but not gas. Only one of the scleroma groups fermented citrate, while two of the three ozæna ones did. The number is too small to draw definite conclusions from, but it tends to support Epstein's findings that the citrate reaction is variable in both groups. The absence of variation in the lactose reaction is contrary to Epstein's findings, but may be accounted for by our small numbers. Serological tests were not carried out in this series.

Streit in 1904 pointed out that atrophic changes in the nasal mucosa may be the only finding in scleroma and describes it as a particular form of rhinoscleroma, rhinitis scleromatosa. More recently Gušić discussed the relation between atrophic rhinitis and scleroma, in particular the fact that both diseases usually occur in the same locality. In his experience 60 per cent. of scleroma cases show evidence of atrophic rhinitis only. Oomen describes 40 patients which he observed for a prolonged period of up to 15 years in a village in Celebes. All had scleroma bacilli in their nasal smears and he found that atrophic changes were as typical as hypertrophic ones, though less common. Zwiefach quoting Quevedo states that in scleroma the atrophic stage precedes the granulomatous and fibrotic one.

Atrophic rhinitis is frequently seen in Uganda and from my limited experience I agree with the suggestion that there is a connection between scleroma and ozæna. I do not think, however, that Quevedo's view that atrophic rhinitis precedes the infiltrative process can be correct. In atrophic rhinitis epithelial changes affect most of the mucous membrane while I have found clinically and histologically normal mucous membrane adjacent to or even overlying scleromatous deposits. It seems more likely that some cases of atrophic rhinitis are caused by a different tissue response to an organism which is either identical or very closely related to the one found in scleroma.

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Whitehall,
55 Clifton Road,
Rugby

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