GRANULOMA INGUINALE (VENEREUM)

BY

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Granuloma inguinale is endemic in the West Indies and other subtropical areas and in the southern part of the United States, but was rarely seen in this country until the West Indians began to immigrate in substantial numbers. In the second half of 1951, the first period for which records are available, no cases of granuloma inguinale were reported in England or Wales. Six cases were reported in 1952, two in 1953, nine in 1954, and twelve in the first six months of 1955. Since the beginning of July, 1955, eight male cases have been seen in Birmingham and Wolverhampton. Because of this rising incidence it is thought worth while to recall briefly the main features and treatment of the disease.

Granuloma inguinale is generally regarded as a venereal infection with an incubation period of two days to eight weeks, but other modes of transmission have been suggested (Fergusson and Roberts, 1953). The disease is commoner in women than in men and in coloured than in white races. The infectious agent, *Donovania granulomatis,* is a Gram-negative pleomorphic rod which grows readily on media containing egg yolk (Goldberg *et al.*, 1953). In Giemsa- or Leishman-stained films of scrapings or sections from the lesion the organisms tend to occur in pairs and are found lying free in the tissues and, characteristically, encapsulated in vacuoles in the cytoplasm of large monocytes.

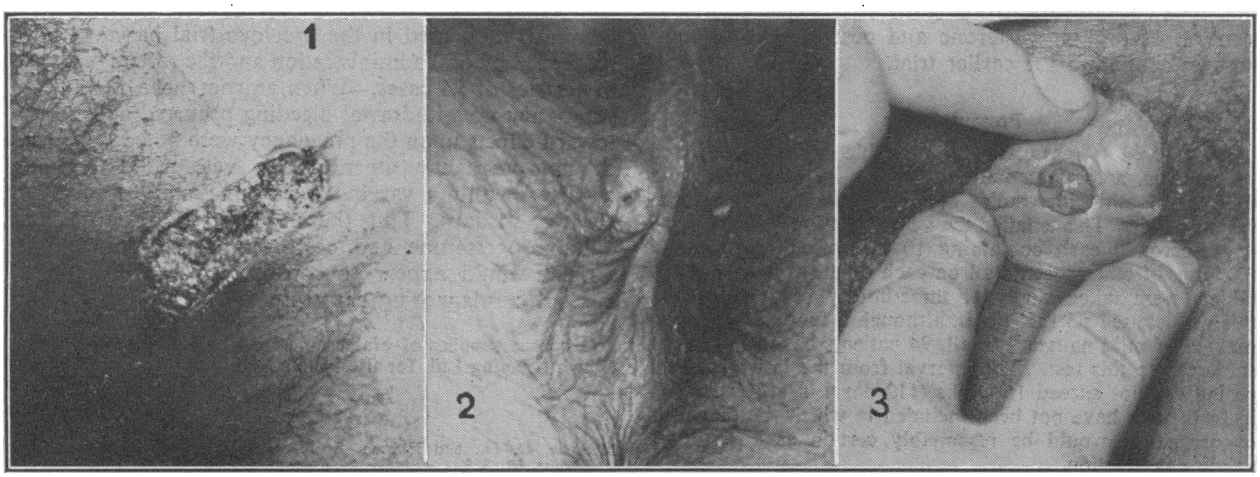
The disease predominantly affects the inguinal, genital, crural, perineal, and perianal regions. The primary lesion is a vesicle or papule which is surrounded by an area of induration and erythema. The overlying epithelium soon disintegrates and the lesion develops either as a tumour consisting of vegetative granulations or as a slightly raised ulcer with a rolled edge and clean, smooth granulomatous floor. Pain and tenderness are not features of the lesion unless it becomes secondarily infected. In the latter event, too, the edge of the ulcer may become undermined and the floor covered with a grey foul-smelling slough. The lesion progresses slowly by peripheral extension and also by the formation of satellite lesions due to auto-inoculation. The lymph nodes are not affected, but an indurated subcutaneous swelling may follow a lesion on the genitalia, the pseudo-bubo of Greenblatt's school. Complete recovery does not occur without treatment, but there may be partial healing with the formation of thick scar tissue. Later marked deformities may arise as a result of this scar tissue contracting.

Present Series

Seven of our patients were from the West Indies and one was from East Pakistan. The Pakistani had been treated for a similar condition one year previously in his own country and he denied any extramarital coitus. Five of the other patients had not indulged in sexual intercourse since leaving the West Indies. Three of these developed the lesion during the voyage to Britain, as did the Pakistani; the other two had been in this country for three and four weeks respectively before the lesion was noticed. The possible incubation in these five cases was 15, 21, 25, 63, and 84 days. The two remaining patients had been in England for over two years. One of these men gave a history of coitus with a Jamaican consort five weeks and with a white consort four weeks before the lesion developed. The other had indulged in very frequent coitus with coloured and white women up to the time the lesion appeared.

One of these patients presented a typical granulomatous ulcer in the inguinal region (Fig. 1). Another had a peri-anal ulcer with hypertrophic granulations growing in towards the centre from the edge, which was undermined (Fig. 2). The lesion was situated on the penis in the other six cases. In one case there was a small raspberry-like tumour over the fraenum (Fig. 3). In another the granulations were also proliferative, and were situated in the coronal sulcus on either side of the fraenum. The lesion was ulcerative in the remaining cases and involved the fraenum in two cases, the coronal sulcus in one case, and the free edge of the prepuce in one case. In one of these cases the ulcer was grossly secondarily infected. In the others it consisted of a slightly raised plaque with an eroded clean surface and a narrow surrounding area of induration. In two cases two lesions were present, while in another there was a slightly tender subcutaneous swelling in the inguinal region.

In every case the diagnosis was established by demonstrating Donovan bodies in the cytoplasm of larger monocytes. Greenblatt *et al.* (1951) recommend that a piece of clean granulation tissue should be obtained by biopsy punch and the under surface smeared on a slide. In these cases we obtained satisfactory results with material obtained by drawing a needle deeply through the tissues near the edge of the lesion.



FIGS. 1, 2, and 3.—Different clinical aspects of granuloma inguinale.

Treatment

American authorities have shown that streptomycin, chlortetracycline, chloramphenicol, and oxytetracycline are more effective in the treatment of this infection than the antimony preparations. Greenblatt *et al.* (1952) treated a large number of cases with these antibiotics and found that the average total amount of each necessary for cure was streptomycin, 23.96 g.; chlortetracycline, 35.5 g.; chloramphenicol, 36.1 g.; and oxytetracycline, 31.6 g.; and that approximately 9%, 15%, 24%, and 6% of the cases treated with these four substances respectively required re-treatment. They also found that 5% of the cases treated with streptomycin were resistant to this antibiotic, and one case (2.2%) was resistant to chloramphenicol. Later Greenblatt and Barfield (1952) concluded that oxytetracycline was probably the treatment of choice and that the optimal dosage was 2 g. daily for 10 to 20 days. In a small series of cases Wright *et al.* (1951) obtained good results with oxytetracycline 1 g. daily for 28 to 35 days. Niedelman *et al.* (1951) considered that 40 g. was the minimum amount of oxytetracycline necessary for complete recovery, although one of their patients was cured with 2 g. daily for nine days.

The dosage of oxytetracycline used in our series was 2 g. daily and of streptomycin 1 g. daily. With a migrant population like the Jamaicans effective follow-up is difficult. One case treated by streptomycin defaulted before healing was complete. Two cases given streptomycin for nine and fourteen days respectively defaulted two weeks after the lesion had healed. One case treated with streptomycin for three weeks has remained healed for four months. One case treated with oxytetracycline defaulted before healing was complete. One case given a three-weeks course of oxytetracycline defaulted a week after healing had occurred. Two cases given a four-weeks course of oxytetracycline have remained healed during an observation period of two months.

It is obvious that we cannot offer any comment of value on the treatment of granuloma inguinale, but we wonder if 1 g. of oxytetracycline daily for 30 days or longer would not prove more effective than a larger amount in a shorter period.

Earlier it was mentioned that the manner in which granuloma inguinale is transmitted is uncertain. If, however, it is a venereal disease the low incidence in the white population of endemic areas leads one to believe that it should not become a serious social problem here, although it may provide occasional diagnostic difficulties unless the possibility of its occurrence in white people is borne in mind.

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The Research Defence Society has published a pamphlet, *Anti-poliomyelitis Vaccination* (price 3d.), which poses and answers outstanding questions on this subject. The society exists to publicize the advances in medical knowledge due to animal experiments, and the fact that this involves no cruelty "in spite of the allegations to the contrary made by those who would like to bring this sort of medical research to an end." The questions and answers deal with the making of the vaccine, the chance of a child getting poliomyelitis, the proportion of paralytic to non-paralytic cases, and the conditions under which the monkeys needed for the vaccine travel and live. Inquiries to the Secretary, Research Defence Society, 11, Chandos Street, Cavendish Square, London, W.1.

Medical Memoranda

A Rare Type of Muscular Dystrophy

In the following case the clinical picture corresponded with that occurring in the distal type of myopathy first described by Gowers (1902), the diagnosis being substantiated by laboratory and electrical investigations.

Case Report

A soldier aged 24 was admitted to hospital complaining of weakness of both lower limbs and difficulty in walking. These symptoms had begun at the age of 6 and had continued to date. The weakness had fluctuated a little from time to time, but had not progressed in severity to any marked degree. Earlier it had been said that pes planus was the most probable cause for his unusual gait. There were no other symptoms relating to muscular or nervous dysfunction. In his family history a relevant fact was that his niece, aged 3, had experienced difficulty in walking, and it was stated that she was suffering from hereditary muscular dystrophy. The rest of his family were quite well.

Examination of his nervous system showed that he had marked wasting of both calves and also of the lower third of both thighs, thereby giving the appearance resembling an "inverted champagne bottle" frequently seen in patients suffering from peroneal muscular atrophy. The power of his calf muscles was considerably diminished, more on the left than on the right. On contraction of his quadriceps femoris a well-marked "bunching" of the muscles was seen, a sign which is ascribed to the wasting of the distal end of the muscles. The deep reflexes in his lower limbs were unexpectedly brisk and the limbs were slightly spastic. Both plantar responses, however, were flexor and his abdominal and cremasteric reflexes were normal. His gait was "waddling" in character, resembling the gait seen in bilateral congenital dislocation of the hip-joints, and the paces were shorter than normal. When asked to stand on his feet from the lying (supine) position no Gowers's figures were present. Clinically there was no abnormality in his facial musculature, the sternomastoids, shoulder-girdle musculature, or the muscles of his upper limbs. All his cranial nerves appeared intact. Sensory changes were not discovered in any region of the body, and muscle co-ordination was quite normal. All other systems were normal on examination.

Investigations.—(1) Cerebrospinal fluid: no increase in pressure; quite clear; protein, sugar, and chloride contents were within normal limits: the cells seen were less than 1% lymphocytes; the Lange colloidal gold curve was negative. (2) Urinary studies of creatine showed a 24-hour excretion of 60 mg. (normal value usually nil); urinary creatinine excretion showed a 24-hour value of 1.7 g. (normal 0.4–1.8 g. in 24 hours). (3) Electrical muscle responses:—Rheobase-chronaxie studies showed abnormalities of the following muscles compatible with a diagnosis of myopathy: tibialis posterior and flexor hallucis longus, and to a less extent in the extensor brevis digitorum, extensor hallucis longus, soleus (left only), and peronei longus and brevis; all changes noted were bilateral with the exception of the soleus. (4) Biopsy of muscle tissue taken from the left gastrocnemius showed the changes of muscular dystrophy, by the presence of swollen muscle fibres, increased sarcolemmar nuclei, and marked interstitial fat. (5) *X*-ray examination of the long bones of the upper and lower limbs showed no rarefaction.

Comment

In Gowers's distal myopathy, wasting begins in the legs and is usually followed later by involvement of the hands and forearms. It is still doubtful, however, whether Gowers's original case was in fact one of true distal myopathy; his patient was a youth of 18 who not only had weak anterior