Continued efficacy of streptomycin in the treatment of granuloma inguinale

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Barton, Craig, Schwemlein, and Bauer (1947) in the USA were the first to report on the therapeutic value of streptomycin in granuloma inguinale, a finding which was subsequently confirmed by Greenblatt, Dienst, Kupperman and Reinstein (1947), Kupperman, Greenblatt, and Dienst (1948), Hirsh and Taggart (1948), Jacoby, Rosenthal, and Sobel (1949) and Stewart and Laur (1949). Rajam and Serma (1949) were the first from India to report on the efficacy of this drug, and Rajam and Rangiah (1952) recorded their experience with streptomycin in the largest number of cases of granuloma inguinale ever treated in one clinic during a period of 3 years; all but four out of 227 cases responded satisfactorily. However, in most recent reports (Serma, 1957; Rama Rao and Patnaik, 1966; Lal, Padma, and Velou, 1967) there are indications that more and more cases of the disease are showing comparative resistance to streptomycin. In the present communication the results of streptomycin therapy in 122 cases of granuloma inguinale are presented and discussed.

Material and methods

There were 122 cases (83 in men and 39 in women) of granuloma inguinale diagnosed during the period from April, 1966, to March, 1970, in Jimper Hospital, Pondichery, India. The diagnosis was confirmed by demonstration of Donovan bodies in tissue smears stained by Leishman's stain. The duration of the disease was 1 to 6 months in 74 cases and above 6 months in 48 cases.

The patients were treated with 1 g. streptomycin given twice a day by deep intramuscular injection and the progress of the lesions was watched daily. If lesions failed to heal or to show considerable improvement by the end of 10 days, fresh tissue smears were examined for Donovan bodies. In cases in which repeat smears gave positive results the infection was declared resistant to streptomycin and treatment with broad spectrum antibiotics was prescribed. During the period of streptomycin therapy,

close watch was kept for side-effects such as giddiness and allergy.

Observations

RESPONSE TO TREATMENT

Of the 122 cases, 111 (91 per cent.) responded to the therapy while eleven (9 per cent.) were shown to be resistant; six of these were in women and five in men. The average amount of streptomycin given to the 111 patients whose infections responded to streptomycin was 25 g.

SIDE-EFFECTS

Eighteen out of 122 patients developed giddiness, in seven cases this developed after administration of 9 to 20 g. streptomycin, and in the other eleven it was experienced after more than 20 g. had been given. One of these patients experienced vomiting as well as giddiness. Streptomycin therapy was stopped as soon as giddiness developed; in seventeen out of eighteen cases the symptom cleared within 2 weeks, but in one it persisted for 5 weeks. In sixteen of these eighteen cases the lesions healed without further treatment, but in the other two the infection was shown to be resistant to streptomycin and treatment with broad-spectrum antibiotics was later prescribed.

FOLLOW-UP

Of 111 cases successfully treated by streptomycin, 38 were available for follow-up (Table); none of these showed any evidence of recurrence of the lesions.

TABLE *Follow-up in 38 cases of granuloma inguinale*

<i>Length of follow-up</i>	<i>No. of cases</i>
Up to 3 mths	9
3 mths to 1 yr	15
1 to 2 yrs	10
Above 2 yrs	4

Discussion

From their abundant experience in treatment of granuloma inguinale, Rajam and Rangiah (1954) considered that 20 g. streptomycin given as 1 g. twice a day for 10 days was the dose usually required. Serma (1957) reported that 92 out of 140 cases were cured with 20 g. streptomycin, while the remaining 48 cases (34 per cent.) required more than 20 g. Rama Rao and Patnaik (1966) using 1g. streptomycin daily for 20 days, met with treatment failure in thirty cases out of 174 (17 per cent.). Lal and others (1967) reported that seven out of 52 cases (12 per cent.) were resistant to streptomycin and that 35 cases (60 per cent.) required a dosage greater than 20 g.; they concluded that the causative organism had become relatively resistant to streptomycin and thought that in due course broad-spectrum antibiotics might have to be used as a routine. However, in the present study, treatment failure was limited to 9 per cent., which is a rate less than that reported by Rama Rao and Patnaik (1966) and Lal and others (1967).

Eighteen of our 122 patients who were treated with streptomycin experienced giddiness, and this disappeared within 2 weeks of the cessation of treatment in seventeen cases.

The 38 patients who reported for follow-up for periods varying from 3 months to over 2 years showed no evidence of recurrence of the disease.

It thus appears that streptomycin may still be useful in treating granuloma inguinale in areas with a high incidence of syphilis, where it is prudent to reserve broad-spectrum antibiotics for cases showing resistance, allergy, or side-effects. As there is a risk of suppression of associated syphilitic infection with the broad spectrum antibiotics, these should be given in the usual antisyphilitic doses even if serological tests for syphilis are non-reactive, especially in cases of granuloma inguinale of less than 6 months' duration.

Summary

122 patients with granuloma inguinale were treated with streptomycin in the Jimper Hospital, Pondichery, India, between April, 1966, and March, 1970; 111 cases (91 per cent.) responded to the therapy while eleven (9 per cent.) showed resistance to the drug as evidenced by the persistence of Donovan bodies in tissue smears. The average amount of the drug required for successful treatment was 25 g. given as 1 g. intramuscularly twice daily. Eighteen of the 122 patients developed giddiness as a result of the therapy, but this soon ceased in seventeen. Of 111 successfully treated patients, 38 came for follow-up, and none of these showed evi-

dence of later recurrence of the disease. It is thought that streptomycin may continue to have value as a routine therapy for the treatment of granuloma inguinale in areas with a high incidence of syphilis.

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Permanence de la valeur de la streptomycine dans le traitement du granulome inguinal

SOMMAIRE

A l'Hôpital Jimper (Pondichéry, Inde), 122 malades atteints de granulome inguinal ont été traités par la streptomycine entre Avril 1966 et Mars 1967. Le traitement fut efficace chez 111, alors que 11 (9 pour cent) résistèrent au médicament, comme ceci fut prouvé par la persistance de corps de Donovan dans les préparations de tissus. La quantité moyenne de médicament nécessaire au succès thérapeutique fut de 25 g., donnés à la dose de 1 g. intramusculaire deux fois par jour. Des 122 malades 18 présentèrent des vertiges après le traitement; ceux-ci cessèrent rapidement dans 17 cas. Parmi les 111 malades traités avec succès, 38 se présentèrent pour la surveillance et aucun ne montra de signes d'une rechute ultérieure. On considère que la streptomycine peut continuer à avoir de la valeur comme traitement de routine dans le granulome inguinal, dans les régions à haute incidence de syphilis.