Chart showing periods during which streptomycin was given for relapse. The criteria of C.S.F. normality have been: cells—not more than 5 per c.mm.; protein—not more than 40 mg. per 100 ml.; chlorides—not less than 720 mg. per 100 ml.; sugar—not less than 45 mg. per 100 ml.

signs of miliary tuberculosis of the lungs associated with meningitis are subsequently more liable to relapse.

Conclusions

A relapse may occur in cases of tuberculous meningitis after full clinical recovery and return of the cerebrospinal fluid (C.S.F.) to normal. No precipitating cause for relapse has been found.

Occasional slight abnormalities of the C.S.F. up to two years after cessation of all treatment may be unaccompanied by any other evidence of activity. The significance, if any, of these variations can be assessed only by a further period of observation, the length of which has not yet been determined. We therefore do not feel able to regard a patient as finally cured and requiring no further observation even after two and a half years from the cessation of streptomycin treatment.

Summary

A follow-up report is presented on the condition of the survivors in a series of cases of tuberculous meningitis previously reported.

Of the 18 original survivors, two have died, and three have relapsed but recovered after further treatment. Two developed non-meningeal tuberculous lesions which responded to treatment. The survival rate has been reduced to 30% (16 cases).

Slight variations in the C.S.F. of the survivors have been found, but their significance could not be determined. A further period of observation is necessary.

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ORF IN LONDON

BY

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The word "orf" is derived from the Saxon for cattle; it is now applied to contagious pustular dermatitis, a malady of sheep that is well recognized by those who deal with these animals.

Hansen (1879), Hatzios (1929), Peterkin (1937), Schoch (1939), and others have described the lesions of orf in man, and the condition is now well recognized as being common in many sheep-rearing localities; in southern England, and especially in London, it has rarely been seen. For this reason, and because the disease is likely to be mistaken for a simple pustular infection, the following cases are recorded, all having occurred within three months (November, 1950, to January, 1951) in London.

Natural History

In sheep, orf is characterized by ulcerative and pustular lesions of the skin and mucous membranes. It occurs particularly in lambs under 1 year old. The mortality rarely exceeds 1% (National Veterinary Medical Association publication, 1944). Human orf follows contact with infected animals, whether dead or alive. In the latter the saliva seems to be particularly infectious, and there is evidence that dried saliva crusts may also harbour the infection for several months (Glover, 1929). The incubation period has never been accurately assessed, but it is short, and is probably between three and seven days.

The infected person usually has a single lesion situated on the arm or hand, or occasionally it may be on the face; sometimes multiple lesions are seen (Blakemore, Abdussalam, and Goldsmith, 1948).

The lesion consists of a raised nodule, 1–3 cm. in diameter, which usually is ulcerated at its summit. The shallow ulcer is surrounded by dead, white, soggy skin, and the whole gives the appearance of a granuloma in the centre of a blister or pustule. When explored, as it not infrequently may be, pus is not obtained, and only a little blood exudes. Pain is slight and general toxic symptoms are mild or absent; lymphangitis and regional lymphadenopathy may be present; but all are less pronounced than would be expected if the lesion were of pyococcal origin.

The infection is self-limiting: resolution occurs in five to eight weeks, and is completed with remarkable rapidity when once it starts.

The causative organism is a virus which has been isolated by several workers and found to be morphologically (by electron microscopy) and immunologically identical with the virus found in contagious pustular dermatitis of sheep; further, the disease has been experimentally transmitted to a human volunteer (Blakemore, Abdussalam, and Goldsmith, 1948). Lyell and Miles (1950) reported having cultivated the virus from man on living chick embryos; subsequently they infected the lamb with the virus, the animal developing typical contagious pustular dermatitis. Thus, instead of having merely circumstantial evidence of the connexion between orf in man and the infection in sheep, the relationship can now be regarded as proved.

The Minister of Health (Mr. H. Marquand) recently visited a blood-donor session at a London hospital and himself gave a pint of blood. In a short speech he remarked that hospitals to-day used nearly 1,000 pints of blood a day, a fiftyfold increase on pre-war. Another 200,000 blood donors were needed to meet all the demands now being made on the National Blood Transfusion Service.

In the present series, Cases 1–6 were porters in Smithfield meat market; each had a single lesion on the hand. They were all experienced in handling meat and had handled sheep's heads on many previous occasions, but they stated that they had never previously had similar lesions. They all worked in one particular depot, which had been receiving sheep's heads from the Peebles, Dumfries, and Kelso areas of Scotland. Although the heads were contained in thin muslin-like bags, the men often scratched their skin on the teeth which protruded through the fabric.

Case Reports

Case 1 (Fig. 1).—No treatment was given. The lesion resolved in eight weeks, leaving a bluish scar and an enlarged and tender regional lymph gland which persisted for a month after healing.

FIG. 1.—The lesion in Case 1.

Case 2.—The lesion was opened nine days after its onset. Bacteriological examination gave a scanty growth of coliform bacilli only, and material was taken for virus identification. No treatment was given, and the lesion healed in five weeks.

Case 3 (Fig. 2).—This patient was treated with chloramphenicol, 500 mg. six-hourly, for seven days. The lesion took five weeks to clear up. When comparison was made with untreated cases it was concluded that treatment did not affect the course of the lesion.

FIG. 2.—The lesion in Case 3.

Cases 4, 5, and 6.—No treatment was given. The lesions cleared up spontaneously in six, five, and seven weeks, respectively.

Case 7.—A butcher gave a history of having handled sheep's heads intermittently over a long period. In particular, a batch was received from Scotland three days before he noticed two spots appear—one on the forefinger and one on the fifth finger of his left hand. These became larger

and ulcerated. Chloramphenicol, 500 mg., was given six-hourly, but no change in the lesions occurred. As this patient had two lesions, one was treated by the application of 3% "aureomycin" ointment and the other was untreated, serving as a control. No difference occurred in the two lesions; both disappeared in six weeks.

Case 8.—A housewife who complained of a lesion on the back of the middle finger of her right hand gave a history of having handled sheep's heads 7 days and 14 days before the onset. The case was not seen until late in its course. In the fifth week, after 500 mg. of aureomycin had been given six-hourly for three days, the lesion dried up and healed. It was considered that, as treatment was started so late in the course of the illness as compared with the untreated cases, it was unjustifiable to attribute resolution to the therapy.

Comment

The sheep's heads concerned came from the sheep-rearing country of Southern Scotland, where orf is enzootic, but it is not thought that the condition has been any more active during the past year than in previous years (Duthrie and Leslie, 1951, personal communication).

Examples of orf have been found in three groups of people who come into contact with infected animals after they have left the slaughterhouses—meat porters, butchers, and housewives. In the first two groups and in farmers the diagnosis may be suggested by the occupational history. In the case of housewives the connexion with sheep will usually be less obvious, and because of this the diagnosis may have been missed in the past.

There is evidence that the natural course of the infection is between five and eight weeks and that chloramphenicol does not affect it. So far there is insufficient evidence of the effect of aureomycin.

The importance of recognizing this condition lies in differentiating it from pyococcal infections which will benefit from surgery and the use of the more readily available antibiotics, since orf does not.

Summary

Eight cases of orf are described. All occurred in London—six in meat porters, one in a butcher, and one in a housewife. All had handled sheep's heads which came from areas of Scotland where orf is known to be enzootic. The natural course is five to eight weeks, and was not found to be altered by the treatment given.

I am indebted to Dr. R. M. B. MacKenna and to Dr. Brian Russell for permission to publish their cases; also to the photographic department of the Medical College of St. Bartholomew's Hospital for the photographs.

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The Operation of a Central Syringe Service (free from 9, Blackfriars Street, Salford, 3) is a well-got-up booklet which analyses the requirements laid down by M.R.C. War Memorandum No. 15 on the use and care of syringes, and shows both in text and by pictures of the service at the Sheffield Royal Infirmary how these requirements may be met.