

## PYOSIS MANSONI AND ALLIED INFECTIONS OF THE SKIN IN INDIA.

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THE group of infections under review comprises a variety of clinical conditions having as a common factor that their exudates on direct examination show pus cells with intracellular and extracellular Gram-positive diplococci.

Clinically, the group appears to fall naturally into three subdivisions characterized by three types of eruption: (1) Bullous or vesicular lesions; (2) follicular and ulcerative lesions; (3) eczematoid lesions.

These subdivisions are, however, not absolutely distinct. Smith [1], in his recent Atlas of Tropical (African) Skin Diseases, adopts a similar classification, and Castellani and Chalmers [2, 3] classify their True Dermatobacterioses in comparable groups.

### PYOSIS MANSONI.

The most distinct member of the group is the condition commonly known as pyosis mansoni (Manson's pyosis, Manson's impetigo, pemphigus contagiosus).

This is a bullous phlyctenular eruption, associated in India with monsoon weather, in which it tends to occur in epidemic form. The lesions, which are pathologically a bullous impetigo, are found typically in the axillæ, or on the neck and face, with or without associated lesions on the trunk and limbs.

The delicate bullæ may dry up and desquamate, or may become semi-purulent and encrust. Both conditions may occur in the same case.

Ordinarily a relatively trivial condition, which clears up within a week or ten days under appropriate local treatment, it may not infrequently prove annoyingly persistent until an autogenous vaccine is given.

It is especially well known in Asia and is described by Smith [1] in his African series.

A full description of Manson's pyosis will be found in Byam and Archibald, vol. iii [3]. An interesting account of an outbreak in Multan is given by Eccles and Dorling in vol. lviii of this Journal [4].

A smear of the fluid aspirated from any of these bullæ shows polymorphonuclear cells with intracellular and extracellular Gram-positive diplococci. No chains or staphylococcal groups were detected in any of our cases.

On culture, the growth is indistinguishable from that of *Staphylococcus pyogenes aureus*. In our series it was noted, however, that after culture

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the diplococcal arrangement was never altogether lost, and occasionally predominated.

We found that an autogenous vaccine whenever used was followed by a rapid resolution. As a routine, a mixed strain vaccine prepared from the first four or five cases in each season was employed, usually with success, but with a marked failure in one case. After having persisted for nearly three weeks this case cleared up completely within three days after one injection of autogenous vaccine. Incidentally, it had been noted in this case that only extracellular diplococci were visible in the smear of the bullous fluid.

The cases were all encountered in Karachi during the years 1929, 1931 and 1932, leave having intervened in 1930.

1929, one case (August), severe; persisted until an autogenous vaccine was given and then cleared up rapidly. This case was in an officer of the unit in which an outbreak later occurred in Multan and was described by Eccles and Dorling.

1931, twelve cases (July, August), generally mild; three cases cleared up within forty-eight hours under local treatment before the vaccine was available—the remainder responded to a mixed strain vaccine prepared from the earlier cases.

1932, thirty-three cases (mid June to mid October), some slight, several severe, the majority mild. A mixed strain vaccine was effective in all these cases except one, which did not respond to treatment until an autogenous vaccine was prepared and used. Five of the cases were officers, and two of them wives of infected officers.

In many of the above cases there was a recent history of bathing in Karachi harbour area. No evidence of association in barracks was obtained.

*Treatment.* A vaccine 150, 250 and 450 million at four-day intervals, was found convenient and effective. Frequently the third dose was not required. *Local.* For the face we preferred a soft paste containing 6 per cent resorcin and 3 per cent oil of cade, or the proprietary resinol ointment. For other lesions 1 per cent mercurochrome was found most useful. Ungt. hydrarg. nit. dil. was considered not so good, but useful and less expensive. Undamaged bullæ were left severely alone.

### ALLIED INFECTIONS.

(1) *Other Bullous or Vesicular Eruptions.*—(a) *Pyosis corletti.* Several of the cases in our series appeared to correspond very closely with the description of *pyosis corletti* in Byam and Archibald [3]. In view of the absence of distinction in incidence they have been recorded as Manson's *pyosis*, of which it is suggested that the condition may be a clinical variant.

*Pyosis tropica* and *pyosis palmaris* (v. Byam and Archibald) were not encountered in our series.

(b) *Dermatitis bullosa plantaris.* Foot tetter. One case, a govern-

ment civil servant, reported in February 1932, with a history of several years' affliction, exacerbation during the hot weather, and total disappearance of the eruption during his visits to England. The site was on the plantar skin under the arch and on the adjacent inner margin of the foot; the slight itching as the sago-like vesicles became superficial and the subsequent flaking were typical. We were surprised to find in smears of the exiguous vesicular fluid the diplococcus already described and no streptococcal forms, and to see the case respond to the autogenous vaccine prepared. Twelve injections were given rising in ten weeks to 1,000 million. The vesicles began to occur singly instead of in twos and threes, and were smaller; they occurred at gradually increasing intervals, and ceased entirely before the monsoon weather commenced. No local treatment was given.

(2) *Follicular and Ulcerative Lesions.*—(a) *Sycosis barbæ*, one case (May, 1932). A typical severe case, the exudate from infected follicles showed the diplococcus already described, and definite improvement followed the use of an autogenous vaccine—a stock staphylococcal vaccine of furuncular origin had previously been tried without success. Locally, mechanical epilation and a resorcin and oil of cade ointment were employed, and the case cleared up completely.

(b) *Septic ulcer* (infection of areolar tissue of shin). One case (December 1932). A chronic indolent ulcer the size of a sixpence on the shin following a kick at football. The case was taken over when the condition was already chronic. The same diplococcus was found, and definite improvement followed three injections of stock vaccine.

(3) *Eczematoid Lesions.*—(a) *Dermatitis of the hands*. Six cases (May, November, December 1923). These cases appeared to be primarily a sensitization dermatitis with secondary infection and were of the moist eczematous type. In all of them the diplococcus was demonstrated in the local exudate. One, a very severe case, resolved with an autogenous vaccine but only to relapse again. This patient had chronic seborrhœa of the scalp. The other five cleared up completely with the stock vaccine and protective treatment.

(b) *Dermatitis of the foot*. Nine cases (May, July, October, November 1932). A semi-purulent dermatitis, possibly secondary to an epidermophyton infection which we were unable to demonstrate. In all of them the same diplococcus was found. Two of the cases (July) were Indian soldiers and were the only Indians in the series. All reacted to the stock vaccine. In three cases only one foot was involved.

It may be noted that among the conditions recorded above are several which are usually associated with streptococcal infection. Foot tetter is generally accepted as streptococcal, and in Byam and Archibald it is stated that virulent streptococci have been isolated.

In his cases of Manson's pyosis, Smith isolated streptococci by Griffon's method, and he appears to consider the diplococcus demonstrated in his cases to be a streptococcal form. He also describes an eczema-like

dermatitis, similar to those recorded above, in which he demonstrated the diplococcus and isolated streptococci by the same technique. One of his photomicrographs showing diplococci and polymorphs represents very closely the condition seen in many of our cases.

Impetigo as encountered in Europe is generally accepted as streptococcal. Macleod [5] describes the impetigo vesicle with "chains of streptococci situated about the floor of the blister, and clusters of staphylococci immediately beneath the roof and towards the margin."

Castellani and Chalmers [2, 3] use the generic name *Aurococcus* for the organism, and indicate that it is a form of *Staphylococcus*. The term *Aurococcus* was used by Winslow and Rogers in 1906 [6] to indicate a genus in their original grouping of the coccaceæ, but in 1920 it was discarded by Winslow and his collaborators [7] on their revision of this classification, and is no longer in general use.

In none of the cases in our series were any chain forms detected on direct examination. Culture under anaerobic conditions was not performed. Throughout the series, culture produced on each occasion a golden staphylococcal growth, showing some degree of persistence of the original diplococcal form.

In the majority of the cases, a stock vaccine of this organism obtained from mixed sources appeared to be specific in action. In some of these a stock *S. aureus* and *S. albus* vaccine of furuncular origin had previously been tried without success. In the remaining cases an autogenous vaccine was used, always with specific effect.

In view of this, we suggest that the diplococcus demonstrated in our cases is a form, perhaps a strain or a group of strains, of *Staphylococcus pyogenes aureus*.

We hope that other workers in India will pursue the matter further.

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