

It is customary for judges to say that if treatment is necessary it will be given in prison. I have taken the trouble to inquire from patients I have had who have served sentences for such offences and the reply has always been "None whatsoever." A short while ago there was a correspondence in the *Journal* on the neuroses due to confinement in prisoners of war, and the general opinion appeared to be that being immured did produce abnormal mental states. How much sense is there in putting the already abnormal in a place where—unless they are treated—they will become more so?—I am, etc.,

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CLIFFORD ALLEN.

Treatment of Bacterial Endocarditis

SIR,—The medical world is now much intrigued by the result of treatment of bacterial endocarditis by penicillin and by the disappointing results of the sulphur drugs. We have been over-prone to label diseases by certain names and to refuse to recognize any variation which did not comply with certain specifications. One hears men discussing the exact types of anaemias, nephritis, and many other conditions in which there is no clearly defined line of demarcation, instead of recognizing the pathogenesis in process. It is all very well talking about bacterial endocarditis as if it is a *fait accompli* and starting off from there to treat it, but it is far more important to try and realize how it comes about, for once that is understood our lines of treatment may be much modified.

Bacterial invasion of the blood stream in many people is almost a daily occurrence, but it does not lead to their deaths, because the defence mechanisms are able to destroy the organisms, either in the blood stream or in such tissues as they may lodge in, as is seen in iritis, nephritis, arthritis, etc. For organisms to enter the blood stream they must have a point of entry, and they must also have the power to multiply in such places where they are uninfluenced by any means the body has to destroy them. In many of these cases the breeding ground is in such a protected focus that the defence mechanisms are unable to overcome the invaders. This we see in infection within the cavity of the uterus, tonsillar crypts, between the gums and the teeth, within the cavity of a dead tooth or nasal sinus, so we must look upon these foci as being guarded by a trap-door or valve through which the micro-organisms can slip but nothing can get in to harm them.

In the majority of cases the defence mechanisms of the blood and tissues are able to destroy invaders before they have done too much damage; but once this power is lost the organisms overwhelm the host, as is seen in fatal cases of septicaemia, of which bacterial endocarditis represents a certain proportion. Of the large number of cases of septicaemia from puerperal infection only a small proportion develop bacterial endocarditis. In such conditions we must suppose the myocardium and valves to have become sensitized, or that the strain of organism had a specific elective affinity for those tissues. Some of the commonest causes of severe and fatal bacteraemia result from dead teeth, extractions for pyorrhoea, removal of septic tonsils, as well as uterine infections. With regard to root abscesses, which are frequently devoid of pain, and so give no warning of their presence, they have no outlet for the infection except into the blood stream.

The removal of teeth for severe pyorrhoea is always a serious undertaking unless a cleaning-up process is carried out beforehand to reduce the infection, and then only a few teeth must be extracted at a time and much time be allowed to elapse before others are drawn, to escape the negative phase. It may even be desirable to give a course of vaccine treatment to boost up the defence mechanism, especially if many teeth have to be extracted at once. This same procedure may be advisable in the removal of tonsils, where the blunt guillotine is used, as there is a risk of forcing organisms into the tissues; but where a clean dissection is employed this danger is much reduced.

On the whole the defence mechanisms of the blood are able to deal with a few stray organisms entering the blood stream, but if they should come in in overwhelming numbers, this mechanism may be taxed beyond its power, so that organisms multiply within the blood stream with fatal results. In the presence of any septic focus organisms are liable to enter the blood stream daily for a prolonged period with little to show for it, but with the extraction of teeth and the removal of tonsils or some flare-up in the focus they may then enter in overwhelming numbers.

With this view in mind the approach to the treatment of bacterial endocarditis should be totally different from saying, "Here is a case of bacterial endocarditis, let us give it penicillin." The first objective should be to try to find where the organisms are coming from and close the door by the removal of the focus, as those that are already in the blood stream will

be much more easily dealt with if a fresh supply is not coming in daily. There are some who doubt the ability of organisms to breed in the blood stream and maintain that bacteraemia is only kept up by continuous entry. So in spite of the ill condition of the patient it is sound policy to remove any source of entry. Nasal sinuses, especially when blocked, are very apt to be overlooked. I feel sure that such lines of treatment would lead to a greatly improved percentage of cures.—I am, etc.,

Ballarat, Victoria.

SYDNEY PERN.

Allergic Response to Penicillin

SIR,—The following account of what appears to be an allergic phenomenon due to penicillin may interest your readers.

About fourteen months ago I was making a bronchoscopic examination on a "clean" case and the patient happened to cough into my right eye. I omitted the usual prophylactic precautions owing to pressure of work, and next day I had a mild conjunctivitis. This was swabbed for purposes of culture and examined by an ophthalmic surgeon, who found no injury to the cornea and advised penicillin instillation if the culture showed penicillin-sensitive organisms present. These were found, and penicillin in normal saline at a strength of 1,000 units per ml. was instilled, a drop or two at a time, every three hours.

My eye became steadily worse, both lids becoming red and swollen so that I could only just open them actively, and the surface of the skin of the lids and the free margin began to desquamate. Slight irritation of the skin surface of the inner canthus of the other eye also occurred. After three days, on the advice of the specialist, the penicillin was stopped and "albicid" (sulphacetamide) instilled instead—I forget the strength. The condition of the eye and lids immediately improved and had returned to normal in forty-eight hours, except that some desquamation continued.

About two months later, a recurrence of the irritation, especially of the lid margins, took place. Penicillin was tried once more, resulting in an immediate flare-up of the lids to their former condition. All this subsided as soon as albucid was substituted for the penicillin. About three months later, there was a slight recurrence of the irritation, which cleared up with albucid. I had no further trouble until a fortnight ago.

I had been in hospital for a week, after an abdominal operation. I have a very old left mastoid sinus which occasionally discharges, and it was decided to culture it with a view to local treatment while I was an in-patient. Very few organisms were present, but as they were mixed and all seemed penicillin-sensitive, insufflation thrice daily of penicillin and sulphathiazole powder was suggested, to which I agreed.

Twenty-four hours after the first dose into my left mastoid cavity, my right eyelids became red, swollen, and sore—the pain being felt as a constant burning sensation on the skin surface—not unlike that following over-exposure of the lids to sunshine. The lid margins were irritating, and after twenty-four hours slight desquamation started. I am told the conjunctiva was infected, but at no time did I experience the symptoms of conjunctivitis.

The insufflations continued for three days and were then stopped. Throughout this time the lids remained "inflamed" so that visitors kept remarking I was getting a stye. The irritation, burning, and scaling also involved the right eyebrow, a small area of the right forehead, a small area of the right cheek immediately below the eye, and the inner canthus of the left eye. At the same time a similar condition occurred in the meatus of the left ear and behind the lobe of the ear.

There was never any local site of tenderness nor the massive lid oedema that generally occurs with a stye, and as I was convinced it was an allergic phenomenon, no local treatment to the eye was carried out. The insufflations were stopped five days ago and the condition of the eyelids immediately improved. Two days later, the "stain" of penicillin was still present on cleansing the left ear, but was greatly diminished. The meatus was far less irritating and the burning and discoloration of the eyelids had subsided completely, although there was slight irritation from the finely desquamating skin of the lids, chiefly in the region of the inner canthus.

For the past two days I have been completely free from irritation or any other symptom both in and around my right eye and in my left ear.

Another point that may have some bearing on the two earlier recurrences of this unusual condition was that I was at that time penicillin officer in the hospital in which I worked and handled penicillin daily in one form or another, and it is quite possible that a trace of penicillin at that time was the cause of the flare-up. If penicillin can cause this type of reaction around an eye, it is equally likely to cause it elsewhere in the body where penicillin has been applied locally, and this should be borne in mind.—I am, etc.,

London, E.1.

W. R. WELPLY.