and mixtures of penicillin or of streptomycin with either aureomycin or oxytetracycline, left the bacterial population approximately static. Penicillin and streptomycin when used alone permitted growth to occur, but when they were used together they then formed the only combination discovered that would actually sterilize the inoculum in 24 hours.

Accordingly on November 28 treatment was started with penicillin, 2,500,000 units three-hourly, and streptomycin, 0.5 g. six-hourly, and this was continued for six weeks. Blood samples taken at various times during the day indicated that the penicillin level varied from over 80 to about 20 units per ml., and the streptomycin level remained at about 27 μ g. per ml. From December 17 until January 8 probenidol was also given, 0.5 g. six-hourly, but it had little or no effect on the penicillin blood level.

Treatment was stopped on January 8, and thereafter repeated blood cultures have remained sterile. The patient was well when last seen on June 9.

Discussion

In both these cases bacteriostatic antibiotics were first employed in treatment, but, in spite of adequate dosage and although the organisms were fully sensitive, the disease was not controlled by them. This initial failure represented a serious hazard to the patients, for during all the time that infection remains there is an increasing danger of major emboli, renal failure, and irreversible damage to the heart: it has been established that the prognosis depends greatly on the speed with which effective treatment is started (Cates and Christie, 1951). It is not denied that bacteriostatic antibiotics are sometimes effective in this disorder, but the disadvantage of using them when bactericidal drugs are available as an alternative lies in the danger that, should they not work, the time lost whilst using them may well make all the difference to the patient's chances of ultimate recovery.

This being so, it may be as well to examine the reasons why bacteriostatic agents were used at all in the two cases described. In Case 1 the reaction of the patient to her first dose of penicillin was alarming, and the necessity of avoiding a repetition of it was taken as a good indication for a change over to oxytetracycline; but this decision was proved by events to be unwise. It had not been appreciated at this time that desensitization could be so simple a process. Fortunately in her case the delay during the time she was given oxytetracycline instead apparently caused no harm. It may be worth noting, however, that even severe reactions to penicillin do not necessarily preclude the use of the drug, as the technique of desensitization to it can be simple and effective.

In Case 2 treatment with chloramphenicol, aureomycin, or oxytetracycline seemed to be indicated on bacteriological grounds by virtue of the results of the usual sensitivity tests, but, as pointed out by Garrod (1953), the situation is in reality more complex than this. Thus the organism was with difficulty inhibited but not killed by penicillin and streptomycin acting singly; it was more readily inhibited but not killed by chloramphenicol, aureomycin, and oxytetracycline; but it was actually killed by the combined effect of penicillin and streptomycin when acting together. It was not until this situation had been revealed that effective treatment with the bactericidal mixture of penicillin and streptomycin could rationally be instituted.

In these two cases a great contrast was shown between the effectiveness of bactericidal as compared with bacteriostatic drugs. Since it has been shown (Cates and Christie, 1951) that 92% of relapses occur within one month of cessation of treatment it seems likely that both have now been cured, by penicillin in the one case and by penicillin combined with streptomycin in the other, whereas even prolonged treatment with the bacteriostatic antibiotics had previously been ineffective. They thus support the view held by Garrod that effective treatment for subacute bacterial endocarditis usually demands that the drug employed must have bactericidal and not merely bacteriostatic action.

Summary

Two cases of subacute bacterial endocarditis are reported.

The first case was treated with oxytetracycline because of severe reactions to penicillin, but the infection was not controlled by it, although the organism was sensitive. Subsequent use of penicillin, "covered" by antihistamines as described in the text, rapidly cleared the infection.

The second case was treated with chloramphenicol, aureomycin, and oxytetracycline because the organism, *Str. faecalis*, was sensitive to these drugs and resistant to penicillin and to streptomycin. Nevertheless the infection was not controlled by them. When it was subsequently shown that a combination of penicillin and streptomycin acting together was bactericidal whilst the other antibiotics had bacteriostatic action only, treatment with this combination was started, using penicillin in very large doses. The infection was then rapidly controlled.

It is emphasized that the delay caused by first using bacteriostatic antibiotics may well be dangerous because of the likelihood of continued progression of disease, and that every effort must be made from the onset to discover the appropriate bactericidal drug or bactericidal mixture of drugs.

We are indebted to Professor R. V. Christie for his assistance and encouragement in the preparation of this report, to Professor L. P. Garrod for his help and criticism and for the detailed laboratory work, to Dr. G. W. Hayward for permission to publish his case and for his advice with respect to it, and to the house-physicians who looked after the patients and assembled much of the information about them.

REFERENCES

- Cates, J. E., and Christie, R. V. (1951). *Quart. J. Med.*, **20**, 93.
Garrod, L. P. (1953). *British Medical Journal*, **1**, 953.
Maslansky, L., and Sanger, M. D. (1952). *Antibiot. and Chemother.*, **2**, 385.

Medical Memoranda

Oesophagitis Dissecans Superficialis

Sloughing of portions of the oesophageal wall is a recognized consequence of contact with scalding fluids or strong caustic or acid solutions. Plegmonous oesophagitis may uncommonly result from pyogenic infections of the mucous and submucous coats, spreading, perhaps, from a primary infection of the fauces or larynx or originating at the site of a neoplastic ulcer or impaction of a foreign body. Thrush oesophagitis not infrequently gives rise to pseudo-membrane formation, while extension to the upper oesophagus of pharyngeal diphtheritic ulceration has been reported.

There remains for mention a lesion characterized by extensive dissection of the squamous epithelial lining of the oesophagus from its underlying corium in the form of a tubular cast—oesophagitis dissecans superficialis. The following case is recorded on account of the rarity of the condition and the obscurity of its aetiology.

CASE REPORT

A married woman aged 37 was admitted to hospital late at night on October 15, 1951. She had been in her usual good health until about an hour after her evening meal, which had been swallowed without difficulty, when she noticed a sensation of something sticking in her throat. Repeated retching brought the object into her mouth. It was found to be of fleshy substance and apparently attached to the throat. She went to her doctor, and with further

retching and some traction the object was completely removed to the accompaniment of severe tearing pain in the throat and the regurgitation of a small quantity of bright red blood.

Clinical examination on admission revealed no abnormality apart from obvious extreme discomfort on swallowing. There was no pyrexia. The patient presented her specimen (see illustration) in a bottle. It consisted of a flimsy collapsible tube 12 in. (30 cm.) in length and approximately 1 in. (2.5 cm.) in diameter, with a greyish-white, thin, translucent wall. At one end the lumen was slightly constricted and the termination abrupt and regular; at the other end the diameter appeared to widen, the wall of the tube was torn longitudinally, and the free margin was frayed, with adherent blood clot on the outer surface. From

the appearance of the cast and the method of its production it seems likely that initial separation had occurred at, or close to, the cardia, followed by regurgitation of the free end and a progressive stripping of the oesophageal epithelium. The freeing of the more firmly adherent upper portion had been incomplete and accompanied by pain and bleeding.

There was no history of the ingestion of any irritant substance. The diet was habitually bland, and on the day of admission had been in every way unexceptionable. There were no significant points in the personal or family history.

Treatment was directed to allaying the patient's anxiety and relieving the severe dysphagia. The discomfort on swallowing even saliva was considerable, and was confined to the region of the upper oesophagus. It was greatly reduced by the use of amethocaine hydrochloride lozenges. Within a week soft solids could be swallowed with comfort. At review three weeks later there was no complaint of dysphagia on a full diet and barium studies of the oesophagus were normal.

Histological examination showed the wall of the cast to be composed of stratified squamous epithelium resembling the normal oesophageal lining, with fragments of fibrous tissue attached to the separated surface. There were no inflammatory or degenerative changes.

COMMENT

A comprehensive review of the literature by Patterson (1935), in which he lists 17 previously recorded cases, adding one of his own, represents the most recent available publication on the subject and brings out the main features of the condition. The incidence has been equally distributed between the sexes, and the ages of the patients have varied between infancy and 69 years. The good prognosis is emphasized, and, as is to be expected from the superficial nature of the epithelial separation, in no case has subsequent stenosis occurred. Repeated cast formation, however, was a feature in three of the cases reviewed by Patterson, and Muir (1951) mentions a similar example.

As regards aetiology, infiltration of the deeper layers of the cast by inflammatory cells is not infrequently described,

and has been taken as evidence in support of an inflammatory basis for the lesion. In many other cases, however, as in the present one, no such histological feature has been present, and the systemic upset to be expected in the presence of an inflammatory process has been lacking. Significance has also been attached to a story of repeated minor trauma, chemical and physical, the result of dietary indiscretions, and Patterson explains his own case along such lines. In others the production of the cast has followed the swallowing of such varied substances as alcohol, chloroform, industrial spirit, hard crusts, or unusually hot food. No such mechanism can have been operative in the present example, and comparison of the incidence of the condition with the probable incidence of such minor oesophageal trauma would seem to indicate the unimportance of this factor.

Psychogenesis and muscular spasm with resultant epithelial devascularization have also received mention. The suggestion that the condition may represent an atavistic tendency akin to casting of the skin in lower species is not phylogenetically credible.

It may be concluded that no satisfactory explanation has as yet been put forward for what is a rare, benign, but distressing condition.

I am indebted to Dr. T. H. Crozier for permission to publish this case and to Dr. T. H. Crozier and Dr. D. A. D. Montgomery for their encouragement and advice. Dr. A. L. Wells kindly supplied the histological report, and Mr. D. McA. Mehaffey the photograph.

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REFERENCES

- Muir, Sir R. (1951). *Textbook of Pathology*, 6th ed., p. 557. Edinburgh.
Patterson, T. C. (1935). *J. Path. Bact.*, **40**, 559.

Armchair Dermatitis

This account of two recent cases is written in order to draw attention to a characteristic dermatitis in which the exogenic agent might be overlooked.

Case 1.—A grocer aged 44 had a history of sensitivity to turpentine in 1947. For three months he has had a rash starting below the right elbow and then spreading to below the left elbow. The rash cleared whilst he was on holiday, but relapsed when he returned home. He works with his sleeves down, but takes off his coat when sitting in his armchair at home. On examination there was a subacute patch of eczematous dermatitis over the extensor aspect of both forearms below the elbows. A patch test to the artificial leather of his armchair was positive.

Case 2.—A goods guard aged 32 had had eczematous patches on the extensor aspects of his forearms for two years. He previously worked as a shunter with his sleeves rolled up, but for the last two months in his present job he had kept his sleeves down without benefit. At home he sits in an armchair with his coat off and his sleeves rolled up. On examination there was a patch of lichenified eczematous dermatitis over the extensor aspect of both forearms below the elbows. A patch test to the artificial leather of the chair was positive.

These patients presented an identical picture of a chronic patch of eczematous dermatitis over the extensor aspect of each forearm below the elbows. The site of the lesion on apparently covered areas seemed to rule out an external irritant; the appearance of the rash suggested a diagnosis of localized neurodermatitis, though this is usually limited to, or more marked on, one arm, usually the left in right-handed persons. Further questioning of Case 1 revealed the patient's habit of sitting at home with his coat off and sleeves rolled up, resting his forearms on the artificial leather of his chair. In Case 2 the diagnosis was made at once from its similarity to the first one. In both instances patch tests with the artificial leather from the chair were positive.

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