

be continued alternately, until the cerebro-spinal fluid is normal or approaching close thereto.

Women who are pregnant should be treated as first described under the heading of the generalisation stage, and two courses of the mixed treatment should be given without any pause in between. The extra injections at the second month are unnecessary.

Congenital syphilitics should have the mixed treatment for two years, with the exception that the mercury should be administered per os and continuously. All recurrent symptoms should be treated symptomatically and intravenous injections prescribed if practicable, as suggested in recurrent and late cases of acquired syphilis.

As intramine is a new drug, some points with regard to its administration might with advantage be given. All intramuscular injections are apt to be painful; the intensity of the pain varies with different individuals, and is mostly due to the bulk of the injection and the œdema and contraction of the muscle fibres which follow it. There are several ways in which the pain can be reduced. First and foremost, the intramine should be well warmed before it is injected. Immediately after the injection pain is experienced; this lasts for a few minutes, then vanishes, to reappear some hours later when the œdema and contraction set in. The patient should be well massaged after the injection has been given; he should walk about to aid absorption, and the moment the stiffness begins to set in he should have a very hot bath in which some soda has been dissolved. For the next two or three days the leg should be moved as much as possible, hot baths should be repeated, and the part should be well massaged. By the fourth day every trace of intramine will have vanished from the buttock, no induration will remain, and the patient should be able to move about in the normal way. There is usually a rise of temperature on the second and third days, the degree depending upon the severity of the case; the patient may perspire freely, and sometimes a few days later an erythema appears over the injected buttock, which either remains localised or spreads over the body, in every case to disappear 24 or 48 hours later. The erythema is probably due to the sulphur. However big be the dose, and however frequently it be repeated, I have never noticed any other ill-effects than those already described; therefore it may safely be assumed that intramine is an entirely innocuous drug.

CONCLUSION.

I cannot help closing my lectures with the prophecy that intramine, especially when alternated with powerfully adsorbed oxidising agents, is going to play a very important part in the treatment not only of syphilis but of all chronic infections, since it has already proved itself to be of considerable value in cases of tuberculosis and chronic gonorrhœa. It is even probable that intramine may have a place in the treatment of malignant disease.

Finally, I must express my very deepest gratitude to Mr. J. Ernest Lane for the way in which he has facilitated my work at the Lock Hospital. I must also thank Mr. J. Patterson, Mr. R. L. Mackenzie Wallis, and Dr. H. Spence, for their invaluable assistance, and the British Drug Houses, Limited, for the help given and interest taken in my work.

PETROL FOR DOCTORS IN IRELAND.—Owing to the proclamation of martial law, all the petrol in the country was commandeered by the military. As a result, medical practitioners have had to get permits from military officers to obtain petrol, and every effort has been made by the authorities to allow them as little as possible, forgetful of the fact that no profession has been doing so much war work for the country as the medical, and that many are away at present at the front. It is a great pity that the arrangements necessary to control the petrol-supply were not left in the hands of practical business men, who could appreciate the difficulties of the situation, and act accordingly.

EAST-END MOTHERS' LYING-IN HOME.—The report of this charity for the year 1915 was submitted to the annual meeting at the Home, 394-6-8, Commercial-road, Stepney, E., on May 17th. The report states that among the in-patients 549 women were delivered, 539 children being born alive. There were 15 still-births, 10 sets of twins, 5 miscarriages, 111 premature births, with deaths in 13 cases before leaving the Home. The special day and night calls attended to in the district numbered 145, and among out-patients 1166 women were delivered with 1138 infants born alive, 35 still-births, and 20 sets of twins.

NOTES ON A CASE OF SYPHILIS OF THE AORTA.

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With Pathological Report by HUBERT M. TURNBULL,
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ABOUT six months ago I happened to be present in Addenbrooke's Hospital at the necropsy of a man, aged 33, whose death was due to chronic syphilitic meningitis (pia-arachnitis). The Wassermann reaction had been positive. To the naked eye the thoracic and abdominal viscera seemed to be normal. The prosector (Dr. Aldren Wright) at first passed, as I did, the heart and great vessels as normal. But on concluding the inspection it occurred to us that a closer examination should be made of the aorta. The heart and the few inches of the great vessel still attached were then carefully re-examined. But again, on a cursory view, and in the fresh state, these parts seemed normal until Dr. Wright so supported them in their proper position that they could be inspected within and without; then we became aware that the first portion of the arch was a little dilated. A slight but definite, rather irregular bulging was visible within and without. When the parts collapsed this bulge was scarcely manifest; at any rate, not obvious. Furthermore, on yet closer inspection the inner coat of the vessel was seen to be not quite normal, even to the naked eye. In colour and continuity it was unaltered, but inside the dilated portion the lining membrane, over an area about the size of a shilling, seemed a little granular or finely pitted.

The arch was therefore removed and preserved, and sections of it were made. When the vessel had been stiffened by the preservative fluid the dilatation became more fixed and obvious, and on examination of these sections microscopically I was so much impressed by the appearances that—in the shorthandedness of our pathological department, and the absence of Professor G. Sims Woodhead himself on military service—I sent the sections, and afterwards the heart and portion of the aorta, to Dr. Turnbull, with whom I happened then to be in correspondence. His letters I append in full, as they illustrate, what I think we have not on record, a syphilitic aortitis caught at an early stage; or rather perhaps during a very chronic attack which, whatever its duration, had progressed very slowly. For a description of the Hodgson-Welsh aorta, afterwards described by Döhle, Heller, and others, I may venture to refer to my recent work on "Diseases of the Arteries."

In the present specimen I would draw especial attention to the entire absence of atheroma, taking this term in the sense of Jores's sub-intimal changes, with splitting of the elastica, an absence which is the more striking as in advanced cases atheroma commonly, indeed usually, supervenes, and although distinguishable from the syphilitic process blends with it. The description of the blood-vessels also is interesting. To a true hypertrophy of the intima Dr. Turnbull has drawn attention before.

From this case let us draw the lesson in all necropsies on syphilitic cases to submit the thoracic aorta, and especially the ascending arch, to minute scrutiny, to section and microscopic examination. In current necropsy work this aorta might well have passed unnoticed; and had the patient suffered from angina pectoris we should have been assured that the aorta was intact.

Pathological Report by DR. H. M. TURNBULL.

(I.)

I have examined the two transverse sections of the aorta which you sent me. I am much averse to expressing an opinion on sections which are stained by one method only, but if only one stain is employed the van Gieson method is certainly the best.

The *adventitia* is abnormally broad and dense. In one section this alteration in the *adventitia* contrasts sharply with the *adventitia* of a portion of relatively healthy aorta, at one side of the intimal thickening. In one section there is some perivascular infiltration, round a vessel which passes from the *adventitia* into the *media*.

The *media* shows extensive fibrosis, and in this respect contrasts sharply with the slight fibrosis in the relatively

healthy portion of the vessel. In part of the fibrosis the collagen fibrils are directed normally, but in the greater part of the fibrosis, particularly in one section, the collagen fibres are directed at angles, even right angles, to their normal course. The increased vascularity of the media is very marked. Round these vessels there is seldom any cellular infiltration, but dense fibrosis is frequent. The elastic has been destroyed in patches. There also appear to be patches of degenerate swollen elastic. Fibrosis of the outermost layers of the media fuses with the fibrotic adventitia. In one section the preparation is, unfortunately, folded over a portion of media in which more active changes appear to be present.

Only one vessel is present within the thickened intima. The thickened intima is certainly degenerate, but numerous muscle fibres are still present. These fibres are very regular in arrangement; the great majority lie in the long axis of the aorta. There is no area of pultaceous (true atheromatous) degeneration in the intima.

The great vascularity of the media, the abnormal arrangement of the bulk of the collagen fibres in the fibrotic areas of the media, the perivascular infiltration, and the focal fibrosis of the adventitia all bear witness to an inflammatory reaction, and a reaction of considerable intensity. Such a reaction might be secondary to the irritation of products of degeneration. There are indications in the sections that special stains would have shown some calcification of the media, but there is no evidence that medial calcification was of a degree sufficient to stimulate such a reaction. Calcification of a degree sufficient to cause so much inflammation would have been obvious, even in the sections prepared as they have been. Further, degeneration of the media would not have led to permeation of the intima by vessels. The degree of degeneration in the intima is very much less than that which is found to stimulate vascularisation and infiltration of the media and intima.

I think, therefore, that there can be no doubt that the inflammation of the adventitia and media is primary. The inflammation is of a very chronic sclerosing type, and there is little evidence of present activity; the inflammatory tissue is chiefly dense collagenous scar tissue; young, infiltrated granulation tissue is scanty. Further, apart from the one vessel in the outer part of the intima, there is no evidence of inflammation in the intima. The intimal thickening does not consist of granulation tissue, but is a degenerate thickening which has contained muscle fibres arranged definitely, for the most part longitudinally. The intimal thickening has the appearance of a musculo-elastic hypertrophy which has undergone degeneration.

I take the specimens to be examples of a very chronic syphilitic inflammation of low intensity, in which the inflammation has been almost confined to the adventitia and media. It is in such cases that one finds, as I think here, a hypertrophy of the intima over the inflamed, and, therefore, weakened media, instead of an inflammatory thickening of the intima.

In this diagnosis I have not been influenced by your intimation that the patient had had syphilis. I should, in view of the histology, have put my money on a positive Wassermann even had there been no other lesion in the body and no history.

London Hospital, Dec. 7th, 1915.

(II.)

I received the heart and aorta, and two sections of aorta, safely. I have given instructions for their return.

The sections appear to be from the same blocks as the previous pair, which I diagnosed as syphilitic.

The ascending aorta and the arch, from the commissure to the origin of the left subclavian artery, are without doubt affected by syphilitic inflammation. It is a beautiful specimen, and shows (1) the confinement of the lesion to one portion of the aorta (macroscopically), and in this affected portion (2) diffuse dilatation; (3) focal pouches and numerous sulci; and (4) the very characteristic, widespread, white, succulent thickening of the intima.

I can see no evidence of inflammation of the aortic valves. There is very little constriction of the orifices of the coronary arteries.

London Hospital, Dec. 24th, 1915.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—A Comitia was held on May 11th, Dr. Frederick Taylor, the President, being in the chair. The following Members were admitted to the Fellowship, having been elected at the previous meeting: Dr. M. G. Foster, Dr. J. M. Hendrie MacLeod, Dr. H. L. McKisack, Dr. C. H. Miller, Dr. H. W. Wiltshire, Dr. C. E. Lakin, and Dr. E. A. Cockayne. A communication was received from the Society of Members of the Royal College of Surgeons of England. The President then dissolved the Comitia.

THE TREATMENT OF HEAD INJURIES IN A CASUALTY CLEARING STATION.

BY ALEXANDER DON, M.B., C.M. ABERD., F.R.C.S. EDIN.,
MAJOR, R.A.M.C. (T.)

THIS paper is based on a series of over 150 cases operated on since the war began, and most of them in a Casualty Clearing Station. Much has already been written on the subject, but there still remains great divergence of opinion as to the best mode of treatment, and especially as to the place where this treatment should be carried out. In France, for the past year at least, casualty clearing stations have occupied a somewhat anomalous position owing to the effect of trench warfare on their mobility. They have taken the place of stationary hospitals, less adequately equipped, perhaps, than the units going under that name, as the necessity for being able to move quickly must always limit their equipment. But the better opportunity for dealing with the more urgent cases of serious injury in a quasi-fixed unit has afforded the specialist in surgery in a casualty clearing station an experience he has not hoped for and which has made the work more interesting than that in any other medical unit. Most of the patients are birds of passage, and even head cases do not remain long enough for a final decision being arrived at as to the value of the treatment, but the serious cases have been kept in this station till they have either succumbed to their injuries or have got over the immediate danger of shock, and are sent down usually sufficiently well to take an interest in life again.

An X ray installation would be a great acquisition in dealing with such cases, and it has been argued that they should not be touched in its absence, but the difficulty in moving such an apparatus has to be considered as well as the danger to the patient of not relieving urgent symptoms. With the knowledge of the size and position of the missile which a radiogram affords the surgeon, better and more satisfying work could undoubtedly be done, but this is not a sufficient reason for passing all head cases hurriedly through to the base. An operation to remove the foreign body has often to be planned from altogether another avenue of approach than the entrance wound. The external, or scalp, wound, the injuries to cranium, dura, meninges, and brain, all require early attention to prevent sepsis and other immediate bad effects, and this can be given with better results, because earlier, at a casualty clearing station than will be possible at any later stage. Still better results might be attained nearer the front by symptomatic treatment; but, on the other hand, less time is given for symptoms to develop which may guide the surgeon as to how far operative interference is likely to benefit the patient.

Nor is it desirable to convert even a portion of a field ambulance into a hospital suited for major operations. But that is a matter for others to decide upon—C'est la guerre—and we must do our best for cases as they reach us. Head cases, I find, travel badly in motor ambulances, especially in winter. This is not to be wondered at. Much depends on the driving and on the state of the roads. Speed may be a desideratum in cases of severe hæmorrhage, but it adds much to the shock both in penetrating wounds and in simple concussion. The shock from the missile itself is often apparently trivial. I have known a man to steer his aeroplane for 30 miles after being hit, to walk afterwards into hospital, and to die suddenly three hours after admission. In flying there is comparatively little vibration. The running of the engine in a stationary plane or motor-car is specially irritating, but this vibration is not felt when the vehicle is in motion. A post-mortem examination in the case of the airman referred to disclosed multiple hæmorrhages and œdema throughout the brain and in the pons, yet the man showed no signs of head injury or shock to the casual observer. A long drive in an ambulance nearly always means serious collapse if the patient is lying, while sitting cases do not seem to suffer much from the journey. Thus it is that among patients with head injuries admitted to the hospital there is no middle class. The lying cases are nearly all unconscious, while the sitting cases walk in as if there were little the matter with them. It is the old experiment of the effect of a series of repeated small blows on the head in producing concussion or shock. Many of the lying cases recover