3. I saw my third case in consultation with Dr. George Dickson, of Ardmillan Terrace, Edinburgh, on February 10th. Dr. Dickson had not been engaged to attend this patient, a 1-paria of about 24 years of age, but had been suddenly sent for as convulsions had supervened. She was six and a-half months advanced in pregnancy, and had had five fits in rapid succession before I saw her. There was much albumen in the urine, and the cervix was very rigid, the os being barely an inch in diameter. I dilated with the Bossi dilator in thirty-five minutes to a little over 3 in. diameter. As it was a premature labour I did not try to obtain full dilatation. In about half an hour afterwards the fetus was delivered with forceps; it was not viable. The mother has thus far (February 18th) made an uninterrupted recovery.

In none of these three cases had I any opportunity of dealing with the condition by prophylaxis, as all the patients were in labour when I was summoned; in all of them morphine was given, but only to a small extent in the first and third ($\frac{1}{4}$ gr.), and in one of them (the first) the saline infusion was injected below both breasts.

I have dealt with many cases of eclampsia since I published my first cases in 1884, and I think that if we accept the principle of early completion of labour as the treatment of the condition, then the Bossi dilator enables us to do this more quickly than any other means; further, it would seem to do so with safety if properly used.

IS RUPTURE OF THE AORTIC VALVE AN ACCIDENT UNDER THE WORKMEN'S COMPENSATION ACT?

By THEODORE FISHER, M.D., M.R.C.P.

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IN the BRITISH MEDICAL JOURNAL for January 3rd, 1903, is an annotation in which the question is raised whether rupture of the aortic valve can be considered an accident under the Workmen's Compensation Act. Probably few will deny that it appears possible that a healthy aortic valve segment may be ruptured under exceptional circumstances. For example, there seems to be some evidence to show that one or more coats of a healthy aorta may, in rare instances, rupture, and it must be supposed that an aortic valve segment has far less resisting power than the coats of a large artery; yet, although it may be admitted that a healthy aorta may rupture, it is scarcely necessary to remark that the number of cases in which the vessel wall gives way as the result of disease is immeasurably greater. But while this cannot be disputed and while it has long been known also that the aortic valve may be affected with the same disease or diseases as the aorta, yet the fact that, like the wall of the arterial trunk, a valve segment may yield and rupture as a consequence of such disease, appears to have been overlooked.

Difficult though it is to draw hard-and-fast lines between different forms of inflammation of the aorta, if there are not distinct diseases, at least there seem to be one or two varieties of disease. In one variety the formation of fibrous tissue, is the leading feature, and in another the deposition of calcareous salts. The aortic valve may be affected by either of these varieties. There may be extensive deposit of calcareous salts or deformities of various kinds may be the result of fibroid thickening of the valve segments. Where fibroid changes are present in the aortic valve, and are associated with similar disease in the aorta, the disease has apparently spread from the aorta to the valve. In support of this view, it may be mentioned that a case may occasionally be seen where the disease of the aorta is limited to one sinus of Valsalva, and the valve segment below it alone of the three is affected. Usually the fibroid changes in the aortic valve result in diminution in size of the segments allowing regurgitation, and occasionally the regurgitation may be rendered more marked by the retroversion of one of them. At other times, however, a valve segment, when softened by inflammation spreading from the aorta, yields before the arterial blood pressure, and bulges towards the ventricle, as can be well seen in a specimen in the museum of Guy's Hospital. In other cases a valve segment ruptures. In the Bristol Royal Infirmary Museum is a specimen (see illustration) showing an aortic valve segment which has ruptured, and above it the sinuses of Valsalva are affected with disease of the fibroid variety. Similar specimens may be seen in the Museum of the Royal College of Surgeons and of St. Bartho-

lomew's Hospital, and another is figured in the work on *Diseases of the Heart*, by Dr. Byrom Bramwell (p. 502). Perusal of records of cases of rupture of an aortic valve segment shows that the presence of disease of the aorta is invariably mentioned. Sir Walter Foster has recorded 3 cases in all of which the aorta was diseased (^{1, 2}). The same is true of cases recorded by Frew,³ Orlebar,⁴ and Burney Yeo.⁵ One of the cases mentioned in Dr. Peacock's lectures is obviously the same as that from which the specimen in the Museum of the Royal College of Surgeons was obtained. It has already been mentioned that in that specimen the aorta is diseased. In the second case of Dr. Peacock the aorta is not mentioned, but the same case is recorded in the *Medical Times and Gazette*, 1859, vol. i, p. 171; and there patches of atheroma are said to have been present in the ascending aorta.

Rough sketch of a specimen showing ruptured aortic valve segment associated with disease of the aorta.

One other point of interest may be referred to. Whatever may be the cause of the disease or diseases of the aorta classified under the name atheroma, there can be little doubt that the more fibroid type occurs most commonly in men who have been abroad. Clinical notes do not always record all the more important details of a man's history; but, judging not only from history, but from the characters of tattoo marks on the arms or elsewhere on the bodies of men who died of thoracic aneurysm and have come down to the *post-mortem* room of the Bristol Royal Infirmary, at least three out of four give evidence of having been soldiers or sailors, and have therefore presumably been in warmer climates. It is interesting to note in this connexion the previous history of the patients in those recorded cases of rupture of an aortic valve segment which have been referred to above. In four out of the five cases in which the previous history is mentioned the men had been to the tropics. The disease of aorta and of the aortic valve may be the result of untreated syphilis, or possibly it may be the result of some infection of the blood vessels which is more common in warmer climates than with us; but, whatever the cause of the disease may be, the fact seems to me to be clear that rupture of an aortic valve segment is, in the majority of instances, a result of the same disease as that which produces aneurysm of the aorta.

REFERENCES.

- ¹ *Med. Times and Gazette*, 1872, vol. ii, p. 657. ² *Path. Soc. Trans.*, vol. xviii, p. 49. ³ *BRITISH MEDICAL JOURNAL*, 1879, vol. i, p. 936. ⁴ *Path. Soc. Trans.*, vol. xxxi, p. 97. ⁵ *Ibid.*, vol. xxix, p. 63.

A NOTE ON THE THERAPEUTIC VALUE OF ADRENALIN.

By J. GRAY DUNCANSON,
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THIS is claimed to be the active principle of the suprarenal gland, and is conveniently supplied in an aseptic solution as adrenalin chloride solution 1 in 1,000, by Parke, Davis, and Co.

It is in my experience altogether more practicable and efficacious than a solution of crushed suprarenal gland tabloids.

The three cases I report are taken from a large number in which I have used this preparation, and in all with marked improvement.

The cases are chosen because I had previous medical knowledge of each patient; their clinical features are so dissimilar, and the results of previous treatment unsatisfactory.

CASE I.—H., male, 5 years. In May, 1901, falling on a sharp stick held in his hand, the right tonsil was penetrated, making a ragged wound, which would admit the end of a black lead pencil, but was of no great depth. Bleeding was profuse, and the blood, pale brown in colour, did not coagulate. The child an hour after the accident was pallid and inclined to faint. Tr. ferri perchlor. 2 parts and liq. hamamelis 1 part on wool was applied freely and held in position; plugging was impossible, the bleeding being a rapid oozing, it was not possible to ligature any vessels. With local and general treatment, the boy made a good recovery in eight weeks; at first his condition was very critical, with profound anaemia and constitutional disturbance. Latterly he took Hommel's haemato-gen with marked advantage. Some months later he had a severe attack of epistaxis, which was easily controlled by plugs of gauze soaked in adrenalin solution 1 in 1,000.

On September 13th, 1902, he collided with a perambulator, and the pointed end of a brass rod struck him at the middle of the upper orbital ridge on the left side. The mother thought the wound insignificant, and having some adrenalin solution, applied it on linen and, as the bleeding almost at once ceased, did nothing further.

On September 16th, alarming bleeding occurred, and the child was seen by me on September 17th at 1 a.m. The upper and lower left eyelids were swollen and deeply ecchymosed; there was a small irregularly-shaped punctured wound, with edges showing no signs of healing, in the middle of the left eyebrow; from this blood was pouring out in a steady stream. There was little or no coagulative power in the blood. A plug of gauze packed into the wound passed in a downward direction for $\frac{1}{2}$ in., and in no way controlled the haemorrhage; to pack tightly was impossible owing to the situation. I then soaked a piece of double cyanide gauze in adrenalin solution 1 in 1,000, and passed it round the wound, packed in a fresh portion treated in the same manner, and bandaged tightly with a pad over all. In sixteen hours I renewed the plug, and again in another twenty-four. No further bleeding took place, and the wound granulated up in ten days. The boy is a haemophilic, and the history of the two accidents treated by the old and the newer methods is striking.

It is, however, in bleeding from the urinary organs that we expect to find the best results, and experience shows that it is so.

CASE II.—W., male, aged 32 years, suffered from haematuria three years ago. I sent him to Guy's Hospital, when a nephrotomy was performed without any obvious cause being discovered for his trouble. He remained fairly well, with some renal pain but no haematuria until he was revaccinated by a public vaccinator. He had a very bad arm, and on the tenth day there was alarming haematuria; this is interesting, for we know haematuria is sometimes a complication of small pox, and evidently was induced by the vaccination in this case. I immediately gave him 5-minim doses of adrenalin sol. every hour for four hours, and afterwards every two or three hours; the bleeding ceased in twenty-four hours and never returned.

CASE III.—T., male, aged 34, had acute gonorrhoea three years ago, and had eight months' internal treatment without success. I saw him then, and by a combination of injections and internal medication succeeded in improving his condition but could not cure him though I employed every local measure.

On November 21st, 1902, he had a persistent greyish, white discharge of mucous material, occasional pain referred to the point of the penis, and forking of stream of urine on micturition. Catheter No. 9 passed easily to the membranous portion of urethra, then there was conveyed to the hand a sensation of passing through a spongy structure, the instrument was gripped by muscular spasm, but finally passed painfully into the bladder; there were a couple of drops of dark blood in the eye of the catheter on withdrawal. The same instrument was again passed till the point reached well into the prostatic urethra, and then on withdrawal 3ij of a 1 in 8,000 solution of adrenalin chloride was left behind by means of a pipette attached to the catheter; this caused warmth, a little pain which continued for some hours, and was followed by no blood. He was given an injection 1 in 20,000 adrenalin chloride to be used daily; no internal treatment.

On November 28th micturition was less frequent, and there was no scalding, no pain, and the discharge was less. Left in by same means 3ss of a 1 in 1,000 solution. Instrument passed easily, no pain. The injection was given as before, and there was the same feeling of warmth afterwards.

December 12th. Discharge practically ceased; 3ss solution (1 in 1,000) left at seat of trouble. There was a little pain and tingling at the end of the penis. Gave internally 3ss doses of saw palmetto and santal co. three times a day.

June, 1902. He has had no further urethral trouble, gained flesh, and has no discharge whatsoever.

December, 1902. There is now absolutely nothing to be discovered about the urethra; micturition is easy and painless, no discharge.

In this case not only has the eroded mucous membrane been relieved, but an appreciable effect has been exercised upon the stricture itself.

A NOTE ON SOME FURTHER USES FOR PICRIC ACID.

By F. VICTOR MILWARD, M.B.CANTAB., F.R.C.S.,
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THE merits of picric acid in the treatment of burns are now so well known that it is surprising that its use in other surgical conditions has not received greater recognition. The lesions in which it is particularly helpful are those in which the loss of superficial epithelium has produced a raw and painful sore, discharging serum and sero-pus. This "weeping" surface is best seen in acute eczematous conditions, but it is also very noticeable after slight traumatic abrasions. From the length of time that these take to heal, they may easily become infected, and produce a lymphangitis and its sequelae. Picric acid, which is a coagulant and an analgesic, is a simple and effective remedy, and promotes rapid healing. It is best used as a saturated solution, 1 in 95, of distilled water. The rationale of the treatment seems to be the formation of a pellicle of coagulated albumen over the wound, and so the protection of the ruptured superficial lymph spaces and exposed nerve endings.

Should active inflammation be present, there is a danger of confining micro-organisms under the protective coating, and of giving rise to further inflammatory trouble. I have tried picric acid in many lesions, and find that in acute eczema, for instance, where pus is actually present, it is not a suitable remedy. An example of this was the case of a young soldier in whom a wound on the back of the hand had caused an acute eczematous condition to break out. After mopping away all visible pus, I applied picric acid. The result was a lymphangitis and development of a small abscess in the forearm. Picric acid must therefore not be used indiscriminately.

Calvelli¹ claims that it is of use in erysipelas, lymphangitis, eczema rubrum, and erythema; and Allen² speaks of good results in ulceration and eczema of the legs, recent wounds with much loss of skin, and in capillary and haemophilic haemorrhage.

It is, however, to its use in the very minor and trivial cases of loss of superficial epidermis, and in cases of quite superficial infection, that I wish to call attention.

A troublesome affection of the fingers which is especially prone to occur in dressers, house-surgeons, and practitioners who come much into contact with pus, is a peri-onychia affecting the roots of the nails. It usually arises as a redness and tenderness of the soft parts overlying the lunula and sides of the nail. If the free margin of the soft tissue where it extends over the base of the nail be separated from the latter, a bead of pus will exude and a little cavity be discovered, where this has been confined. Wet dressings appear to encourage the suppuration, and dry dressings cause the pus to become still further pent up, until very frequently it will burrow under the very root of the nail and attain its deep surface. Here it is still more difficult to reach. This trouble may be speedily cured by a little attention and the use of picric acid. By the aid of the head of a large needle (a probe is too thick) the soft parts are thoroughly separated from the nail. A few threads from plain white gauze, or a wisp of cotton wool, are then soaked in a saturated solution of the acid, and pushed to the very bottom of the cavity. The soft parts and the root of the nail are thus kept entirely separate by this application, which should be renewed about three times daily. If this is done pain, inflammation, and discharge rapidly subside, and the further destruction of the young nail in its bed by the pyogenic organisms is prevented.

I have also found the remedy to be of use in the treatment of soft corns. Two or three applications will quickly dry them up, and render them painless.

Ingrowing toenail may be successfully treated by excising the offending sharply-pointed corner of the nail which is digging deeply into the ulcerated soft parts. Picric acid freely applied will subsequently harden and render the latter insensitive, and I scarcely ever find it necessary to remove the nail as a whole.

In some cases, that form of eczema known as intertrigo will be greatly benefited by the acid, and I have had particularly good results by applying it to this condition when affecting the interdigital clefts of the toes. It is, however, more suitable for adults than children.

Treatment by dry powders—such as zinc oxide, starch, boric acid, and iodoform—are equally useful in some of these affections, but they have more tendency to form a crust under