The patient's condition rapidly improved, all pain and tenderness soon disappearing. His temperature, however, although normal in the mornings, persistently rose every evening to 100°. A week after the operation, as there seemed to be a little pocketing of the discharge below the patella, I made a small incision at this point on one side of the ligamentum patellae under eucaïne. I think, though, now that this was unnecessary, as it made no difference at the time to the evening rise of temperature, which gradually fell some days later to normal. The side tubes were left out a little over a week from the operation, and the wounds soon healed. Passive movements were begun in about a fortnight, and diligently persisted in. Movement, however, from the first was very good.

The patient's condition six weeks after the operation was excellent. He could walk fairly well with the aid of a stick, and the range of movement in the joint was from the straight position to a right angle.

[We have now had an opportunity of examining our patient six months after operation; the movement in the joint is perfect, and the lad is able to walk and bicycle without the least difficulty.]

REFERENCES.

- ¹ Green, *Pathology and Morbid Anatomy*, p. 298. ² Cave, *Lancet*, January 12th, 1901. ³ Allen and Lull, *Annals of Surgery*, October, 1901. ⁴ Raw, *BRITISH MEDICAL JOURNAL*, December 21st, 1901. ⁵ Herrick, *Amer. Journ. of Med. Sciences*, July, 1902. ⁶ Howard, *Johns Hopkins Hosp. Bull.*, 1903, p. 303. ⁷ Slaughter, *Amer. Med.*, 1903, vol. v, p. 605. ⁸ Raw, *Practitioner*, April, 1903. ⁹ Dudgeon and Branson, *Lancet*, August 1st, 1903. ¹⁰ Witt, *New York Med. Journ.*, 1905, vol. lxxxi, p. 25.

VASO-DILATATION IN HAEMOPTYSIS.

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I HAVE ventured to report the following case for two reasons: One, that it appeared to be one of haemoptysis of a somewhat rare origin—namely, rupture of an atheromatous pulmonary vessel, and analogous to that condition met with in cerebral haemorrhage; to use a loose expression, and without regard to its etymological significance, I looked on the case as one of "pulmonary apoplexy." The other, that I wish to record the effects of treatment at a time when such diametrically-opposed methods as lowering blood pressure with vaso-dilators, on the one hand, and raising it with vaso-constrictors, such as adrenalin, on the other, are being indiscriminately advocated in visceral bleedings. The clinical picture is as follows:

A short, fat, thick-set man, of 13 st. weight and aged 52 consulted me at 2 a.m., having walked about a quarter of a mile, complaining of "coughing up blood." He said he had been doing so with brief intervals for four hours. On giving him a basin, a slight cough brought up half an ounce at a time of bright blood. Having cleared his trachea, in a few moments he was ready to do so again, and in the course of a few minutes he had brought up several ounces, and the bleeding could only be described as profuse. His appearance was happy and not at all perturbed, only he said he "wanted it stopped."

I satisfied myself that the blood came up through the glottis, and was not a haematemesis. He said that he had had a headache for several days, but had been otherwise well. His temporal artery was atheromatous; he had an arcus senilis, and his pulse was full, hard, and strong. He did not look like the subject of lung disease, and examination of his heart disclosed no obvious lesion. These facts took but a few moments to arrive at, and seemed to suggest that the bleeding was due to plethora, to use an old-fashioned but descriptive term; and, using similar phraseology, antiphlogistic measures, and those tending to lower blood pressure seemed indicated.

Amyl nitrite was given freely on a towel, and phlebotomy done at the bend of the elbow, about 10 oz. of blood being abstracted. As soon as the nitrite was given the next clearing of the air passages produced only blood-stained mucus. The next cough showed mucus only. After that there was no further cough, the cause of it, blood in the tubes, being removed.

He then walked home, taking a mixture of sodium nitrate, nitroglycerine, and Epsom salts every two hours, and a mercurial purge. I advised a hot mustard foot-bath, rest with the head elevated, and a spare diet. Next morning I saw him. He had had no more blood-spitting, and said he felt much better even than before it began. His headache was gone. I learned that soon after getting home he went "queer and cold" for a short time, probably a slight syncopal attack from the action of the nitrites. No lung lesion has been detected, and the patient has been quite well since. He has been a tolerable drinker, and his urine is slightly albuminous.

I have advised abstinence, occasional purgation, and a timely phlebotomy when he gets an oppressive headache.

As regards the site and etiology of haemoptysis Foxwell quotes Dr. Reginald Thompson as follows:

- (1) The pulmonary circulation is the usual source of haemoptysis, slight or serious; (2) the pulmonary circulation is the only source of profuse haemoptysis, except in aneurysm of the aortic circulation or the existence of a haemorrhagic diathesis; (3) anatomically and pathologically the evidence is all against bronchial haemoptysis.

Presumably, therefore, the blood came from a branch of the pulmonary artery in the lung.

In the limited literature at my disposal I can find no reference to the condition I have termed pulmonary apoplexy, except in Douglas Powell's article in *Quain's Dictionary*, in which he gives as a last possible cause of haemoptysis "primary atheroma of the pulmonary artery within the lung."

As regards treatment: To have given adrenalin in this case, as seems to be advised latterly, without any qualification as to its particular indication, would, I believe, have caused a fatal haemorrhage.

The use of the nitrites, as advocated by F. E. Hare, lately of Brisbane, I have long been familiar with. Foxwell, in his scholarly *Essays in Heart and Lung Disease*, published in 1895, advocated this. He says:

Anything which keeps the blood in the systemic circulation, and so produces anaemia of the lungs, is beneficial. We know that the splanchnic area can contain all the blood in the body; any therapeusis, therefore, tending to fill this area must be good. Large doses of the nitrites, which relax the systemic arterioles, should thus prove of service.

Having imbibed this principle as a student, I have always treated haemoptysis with the nitrites and nitroglycerine as adjuvants to other remedial measures.

In the case reported above probably no one would deny the indication for the vaso-dilators. But in haemoptysis from primary lung disease the case may, perhaps, not be so obvious. Yet I believe in the great majority of cases, if not in all, the parallel holds good.

Though a constant user of suprarenal gland or its active principle ever since its introduction, in various conditions, I could never see its *rational* in the treatment of haemoptysis. If it be good in this connexion (we know it constricts the arterioles generally and raises blood pressure) it cannot be for this latter, but for its former (constricting) effect. In this case it must be conceded that the pulmonary vessels are acted on by the same vasomotor mechanism as those of the systemic circulation, and synchronously with them. And furthermore, that the vessel-constricting power of the drug, as regards the pulmonary vessels, is strong enough to counterbalance the manifest disadvantage of its also admitted pressure-raising action.

But can these premisses be admitted? I doubt it. Foxwell, in speaking of ergot in these cases, says:

Even were it good to contract the arterioles of the lungs, how do we know that ergot will do this? The calibre of the pulmonary vessels is under very different governance from that of the systemic ones, and I am aware of no evidence tending to show that ergot can contract them.

Mitchell Bruce says "the arteries become distinctly smaller under ergot, and the blood pressure rises." I take it that adrenalin will act in much the same way, and that by acting on the muscular tissue of the vessels directly or through the nerves supplying them.

Foxwell says:

Also, the vessel in the neighbourhood of the bleeding point is diseased, and its muscle fibres degenerated, and therefore the drug will act less upon them than upon the fibres of all the other arteries of the body; the injured arteriole it will not contract, but it will raise the pressure of the blood within it by its effect on all the health arterioles, with the result of increasing the bleeding.

Without absolutely denying the possibility, it would seem clear, on *a priori* grounds, that the specific action of adrenalin of constricting the bleeding vessel is hardly likely to take place. If virtue it has, then, in this connexion, that virtue must lie in the secondary effect of its constricting action—namely, the raising of the blood pressure. Now this is a *reductio ad absurdum*. Nature's own remedy for this and all other bleedings is in lowering the blood pressure by means of faintness. Our own general treatment for haemoptysis is in the same direction—recumbency, quiet, and morphine.

In case of hæmoptysis with a high-tension pulse, could we rationally, and with a due sense of our responsibilities, give so powerful a pressure-raiser as the suprarenal? And in lung bleeding with low pressure—probably the more usual case—should we not rather assist Nature by lowering circulatory tension by any means in our power than empirically use a drug which, though powerful for much good, when rightly and rationally used, is also capable of much harm.

MYCETOMA (MADURA FOOT) IN THE YEMEN.

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THE geographical distribution of mycetoma, or Madura foot, is very imperfectly known. At one time believed to be confined to the Indian peninsula, it has more recently been shown to exist in many other tropical and semi-tropical countries. So far as I am aware, no authentic evidence of its presence in Arabia has hitherto been published. Suspecting its possible existence there, I last year requested some of the medical officers who are yearly sent from Constantinople to the Camaran lazaret for the period of the Moslem pilgrimage, to inform me of any case or cases which might come under their observation, particularly in native inhabitants of the neighbouring provinces of the Hedjaz, Assyr, and the Yemen. I am much indebted to Dr. Pappathanassiou, a member of last year's and of this year's missions to Camaran, for a careful record of ten cases, together with a number of photographs, which show conclusively that mycetoma exists, and is perhaps common, in the Yemen. The following is a brief summary of these cases.

CASE I.—Seit Abdou, aged 16, Imam, from Zodiah. Site of the disease, the right buttock. Has been ill for five years. He attributes the disease to the bite of an insect. He was operated upon in 1903, but the disease returned. When seen on October 4th, 1904, there were all the signs of mycetoma of the black variety. A second operation was performed on October 25th, and he left Camaran fifteen days later completely cured.

CASE II.—Hassan Hussein, aged 26, field labourer, from Zodiah. Site of the disease, the left foot; has suffered for seven years. He attributes the disease to the bite of a snake on the sole of the foot. When seen on February 3rd, 1905, the whole foot was swollen; the big toe alone was healthy. From a number of sinuses an oily liquid was constantly flowing, containing some pus, a little blood, and coarse black grains in suspension, resembling coarse gunpowder. On February 5th the foot was amputated, and seventeen days later the patient left the lazaret in good health.

CASE III.—Hassan Abdou, aged 28, field labourer, from Wady Aghem, near Hadjour. Had been ill for eight years. He also attributed the disease to the bite of a snake on the sole of the foot. When seen on February 3rd, 1905, the right foot presented much the same appearance as in Case II, save that all the toes were healthy. On February 6th amputation was performed, and fourteen days later the patient left the lazaret cured.

CASE IV.—Moeddin, aged 22, field labourer, from Zodiah. The disease began near the right elbow two years before. No cause could be assigned for it; he first noticed, while bathing, some small swellings on the external surface of the lower third of the upper arm, which later extended to the middle third. When seen on February 8th, 1905, there were three or four such tumours, with one or two sinuses from which an oily liquid escaped; this liquid was then clear or slightly purulent, but the patient stated that some time before it had contained in suspension black grains. The patient left without consenting to any operative treatment.

CASE V.—Otabi, aged 55, field labourer, from Loheia. Has been ill for ten years; he ascribes the disease to the bite of a snake in the left foot. When seen on February 20th, 1905, the foot presented all the signs of mycetoma of the yellow variety. On February 22nd the foot was amputated, and twenty-one days later the patient left the lazaret cured.

CASE VI.—Seit Ahmet, aged 38, field labourer, from Badjel. He also ascribes the disease to the bite of a snake ten years ago. As in the other cases attributed to a similar cause the swelling began at the site of the bite, was of very slow growth, and only after several months began to soften and break down, with the formation of sinuses and the discharge of an oily liquid, containing a little pus, some blood, and black grains in suspension. When first seen on April 8th, 1905, the left foot was in an advanced stage of mycetoma (see Fig. 1); amputation was performed on April 10th, and seventeen days later he left the lazaret cured.

CASE VII.—Mollah, female, aged 57, bedouin from Zodiah. The disease began in the right foot seven years ago. When seen on May 4th, 1905, only a cursory examination could be

made, but it was seen that the foot was much swollen, and sinuses were present from which an oily liquid was flowing.

Fig. 1.—Case vi.

the woman's companions stated that the fluid had contained black grains, and some of these were produced wrapped in a rag. The woman refused operation and disappeared.

CASE VIII.—Selim, aged 32, field labourer, from Zodiah. The

Fig. 2.—Case ix.

disease began in the right ankle ten years ago. When seen on June 2nd, 1905, the foot presented all the signs of mycetoma of the black variety. On June 4th amputation was performed, and twelve days later he left the lazaret cured.

Fig. 3.—Case x.

CASE IX.—Omah, aged 30, field labourer, from Zodiah. The disease began seven years ago in the left foot. When seen on