ON THE ASSOCIATION OF MITRAL STENOSIS WITH GOUT AND GRANULAR KIDNEYS.

By G. N. PITT, M.D.,

Assistant Physician and Pathologist to Guy's Hospital.

My attention was first drawn to this relationship about four years ago by a gouty man, over 50, admitted with an attack of hemiplegia due to cerebral hæmorrhage, who had granular kidneys. There was a loud first sound, with a short, definite, blowing, systolic *bruit* limited to an area of an inch in the region internal to the apex-beat, in whom mitral stenosis was diagnosed. Shortly afterwards a man, who had only a loud first sound at the apex, with no second sound audible, whose kidneys were cirrhotic, was found *post-mortem* to have also a contracted mitral orifice. Since then I have observed several cases: there has usually been no difficulty in diagnosing the granular condition of the kidneys, but the stenosis of the mitral has sometimes been unsuspected till after death, and while its existence was often readily diagnosed in some, it could only be suspected in others. A presystolic *bruit* was the exception rather than the rule.

Quite recently there have been two cases under my care. The first was a woman, aged about 50, who was admitted comatose, with meningeal hæmorrhage. She had granular kidneys, and a small mitral orifice, which I had suspected from the marked accentuation of the first sound and the feebleness of the second at the apex. The other was a woman, aged 45, with albuminuric retinitis and granular kidneys, who for a long time had only an accentuation of the first sound and absence of the second at the apex, with a soft, long, systolic *bruit* internal to it; she has now developed a well-marked presystolic *bruit*.

The symptoms which have been most frequently observed in this group of cases are a loud first and a weak or absent second sound at the apex, accompanied or not, as the case may be, by a systolic *bruit*, which often may be extremely localised. The second pulmonary sound is usually accentuated or reduplicated. At times only a presystolic rough or rumbling *bruit* is audible. It is, hence, not at all surprising that an inexperienced auscultator should record that the heart-sounds are normal; as it is some time before students recognise that other signs besides the mere presence or absence of a *bruit* may be of importance.

I have searched the records of the Guy's *post-mortem* room for the preceding ten years, and find that during that period there were 542 fatal cases with granular kidneys, of which 33 (23 women, 10 men) had mitral stenosis (that is, 6 per cent.), while only 2 per cent. of the total fatal cases showed mitral stenosis; so that a contracted mitral is three times as common among patients with granular kidneys as among other patients.

During the same period there were 115 cases of mitral stenosis, so that one-fourth of them were also suffering from granular kidneys; a further examination showing that while the proportion was about one-fifth for the men, it was one-third for the women. Two-thirds of all the cases of mitral stenosis occurred in women.

Most authors allow that atheroma of the vessels and endocardium is a frequent sequence of granular kidneys, and hence that aortic failure, which is the most frequent result, is more common among adults than among children.

In children, rheumatism is the predominant cause of valvular disease, and we find both mitral incompetence and mitral stenosis frequently resulting. I am not aware, however, that attention has hitherto been drawn to the fact that one-third of all the fatal cases of mitral stenosis in women, and one-fifth in men, are associated with granular kidneys; and if the cases under puberty be excluded, the proportion for women amounts to almost one-half. Of these, doubtless the complication is a mere accident in some, but there is a large number in which the secondary degenerative vascular lesions set up by the impure blood and high blood-pressure have led to thickening and contraction of the mitral orifice.

On looking at the reports, I was struck by the number of cases in which the women had borne children, and it was noted that the kidneys were scarred as well as granular; lesions due to consecutive nephritis at the times of pregnancies most probably.

Whether the nephritis set up by pregnancies is more likely, on account of the concomitant factors of impure blood and excessive abdominal tension, to set up sclerotic changes in the endocardium is at present unknown, but the increased proportion of granular kidneys among the female cases of mitral stenosis points that way.

An analysis of the 23 female cases shows that in only 3 cases was there a history of rheumatic fever, and in 1 of these there was also gout. In a fair proportion of the others it is probable that the granular degeneration of the kidneys was a consecutive nephritis, due to pregnancy or other uterine trouble. The hearts were larger than the average and the kidneys smaller, hence it is most probable, in the absence of any other cause, that in most of the cases the mitral stenosis was secondary to the kidney degeneration. The ages of the patients were between 32 and 58 in 17 out of 22, and between 46 and 66 in 7 of the cases. The youngest patient was 21.

An analysis of the 10 male cases gives a history of gout in 4, rheumatic fever in 3 (1 being also gouty), cancer of pancreas and syphilitic lardaceous disease in 1 each. The evidence is also strongly in favour of the mitral stenosis being secondary to the granular condition of the kidneys in 7 of the cases. In 9 out of the 10 cases the ages lay between 46 and 66; the other patient, whose cardiac trouble was probably rheumatic, was aged 35.

If granular kidney be produced by heart-disease, it would not be unreasonable to expect that among this series of cases there would be some among young people in whom mitral stenosis is not uncommon, yet only 2 patients are under 32. Hence, as the two diseases are frequently associated together, we are led to the conclusion from these cases that granular kidneys are a frequent cause in middle life of mitral stenosis, but that this cardiac degeneration only ensues in a few cases of granular kidney, and that there is no definite evidence that mitral stenosis produces granular kidneys. It is also instructive to notice that the average age at which the women die is 42, while the average age of the men is 52, the primary cause in the former frequently being pregnancy and in the latter gout, and this is probably the explanation of the difference in the ages.

ON HYGROPHILA SPINOSA (VEL ASTERACANTHA LONGIFOLIA).

By WILLIAM A. JAYESINGHA, L.C.M.C.,

Resident Medical Officer, Civil Hospital, Kurunayala, Ceylon.

HYGROPHILA spinosa vel *asteracantha longifolia*—a prickly herbaceous plant common in the marshy places in the hotter parts of Ceylon, belonging to the natural order *Acanthaceæ*—was tried as a diuretic in several cases of dropsy with success in the Government Civil Hospital, Kurunayala. It is known as *Ikkirre* in Singalese, and *Neermullie* in Tamil. The entire plant is used in medicine; the practitioners of native medicine in Ceylon consider it as one of the best medicines in dropsy, and is given in the form of a decoction, and locally it is used as a fomentation in cases of inflammation and in rheumatism. The ashes of the burnt plant, according to Dr. J. Shortt, in doses of about half a teaspoonful twice or thrice a day, is a form of administration followed by native practitioners of India. Dr. Kirkpatrick states that he frequently employed it in dropsical cases, and it undoubtedly possesses considerable power as a diuretic. Dr. Gibson also bears testimony to its powers as a diuretic. It is also favourably reported by several of the surgeons of India.

The two following formulæ for the administration of the drug are given in the *Indian Pharmacopœia* by Waring, namely: Decoction—Take of *asteracantha* root one ounce; water, one pint; boil to fourteen ounces; strain; dose, from one to one ounce and a half daily. Acetum—Take of *asteracantha* leaves freshly dried two ounces; distilled vinegar, sixteen ounces; macerate for three days, press and strain; dose, four drachms to one ounce.

The mode of administration followed in this hospital is the following, namely, two ounces of the dried plant is infused for half an hour in a pint of boiling water, and strained; this quantity is administered in divided doses to one patient in the twenty-four hours.

CASE I.—Villeyan, aged 35; male; civil condition, not married; race, Malabar; birthplace, India. This was an extremely anæmic Malabar coolie, sent into hospital from an estate in Polgahawella for treatment, on July 7th, 1886, suffering from extensive general dropsy. His condition on admission was the following. His face was swollen, conjunctivæ and tongue pale and bloodless, abdomen distended with fluid, feet cedematous, bowels regular, urine scanty. He was treated with tincture of digitalis and iron; under this treatment his bowels became irritable, and he had a severe attack of diarrhoea, from which he suffered for about a month; in the meantime his dropsy increased. Suspecting that the cause of anæmia was due to the presence of *anchoylosta-na duodenale*, he was put upon half-drachm doses of oil of male fern, which brought on a relapse of diarrhoea. After he was cured of his diarrhoea, he was put upon infusion *asteracantha*; this