A CASE OF SYMMETRICAL GANGRENE ASSOCIATED WITH PERIPHERAL NEURITIS.

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F. B., aged 46, a native of Java, was incapacitated from duty as quartermaster of the steamship *Macduff* about the beginning of last January, owing to weakness and numbness of the legs. The vessel was on a voyage from the United States to Japan, *via* Honolulu; and it is noteworthy that this trouble began before reaching the intermediate port—that is to say, before cold weather was experienced. From Honolulu the weather was cold, although there was no frost on deck. During this time he remained in his berth, as he was unable to stand.

On admission to the Yokohama General Hospital the patient exhibited some oedema over the tibiae and loss of tactile sensation in the same region. He had hyperæsthesia of the inner heads of the gastrocnemii, and to a slighter degree of the quadratus magnus on the right side. Knee-reflex was absent on both sides. Cremasteric and abdominal reflexes normal. Pulse was 96, running up to 104, and even more, on slight exertion. Not to be too prolix, it looked like a case of beri-beri.

The urine was described as small in amount; in hospital it ranged between 12 and 20 ounces per diem for some days, but gradually increased under digitalis, strychnine, and convallaria. No sugar, no albumen, no hæmoglobin. No history of alcoholism, but one of very severe beri-beri twenty years previously, which laid him up for over a year.

A thin black line, barely the thickness of a match, crossed the tips of the toes, symmetrically in both feet. On account of the dark skin and feet not over-clean, it needed some cleansing to establish this beyond doubt as a line of advancing gangrene.

The process extended slowly in a dry form, with a morning temperature below the normal, and in the evening touching 100°. By the latter part of February a line of demarcation had formed in both legs, about 2 inches above the ankles; and on March 2nd, the temperature being continuously subnormal and the pulse and dry tongue pointing to septic absorption, I removed both legs at the "seat of election." The method of skin flaps with circular division of the muscles was adopted, and the seat of election chosen, because time was an object owing to the amputation being double, and because the knees could be easily utilised did the stumps not bear pressure well.

The skin wounds healed by first intention, but a slight bagging of serum in both wounds, accompanied with a rise of temperature to 101.6° F., obliged me to drain them. Afterwards the temperature never exceeded 99.4° F., and the patient made an excellent recovery, the contracted skin flaps forming most promising cushions. With the proper amount of pressure on the faces of the stumps the bagging would not have taken place, but I was naturally afraid of putting much pressure on the stumps of gangrenous limbs. Glutol was used in the dressing. In some half a dozen cases in which I have tried it, it seems to have proved almost too good an antiseptic, if one may say so, as it prevents the natural dissolution of epithelial cells, which form with the gelatine a glutinous scab which is difficult to remove.

There is not much doubt that this patient had beri-beri, and that paralysis of the vaso-dilator nerves of both extremities, corresponding to the interference with the vagus function so frequently found in beri-beri, and indicated by the rapid pulse, resulted in local asphyxia and death. It is highly probable also, that this result was, in no small measure, due to the stimulating effect of cold on the vaso-constrictor nerves. The loss of balance created by the vaso-dilator paralysis would permit of greater contraction of the arterio-capillary network under stimulation of the constrictor nerves. Interference with irrigation, exaggerated, perhaps, by backward pressure from the dilated veins results, if long continued, in gangrene. This may be produced by cold alone, especially in persons whose circulation is "slow" and whose vaso-dilator nerves do not open the irrigating canals with

sufficient alacrity. One is inclined to think that Raynaud's disease is to be traced to paralysis of the vaso-dilator, even more than to stimulation of the vaso-constrictor nerves, an explanation more in keeping with the presence of a peripheral neuritis.

A SUCCESSFUL CASE OF RETROPERITONEAL URETERO-LITHOTOMY.

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UP to this date very few operations have been recorded of the removal of a calculus from the ureter. With the more exact methods of diagnosis now available, such operations will undoubtedly be more frequent in the future. Any such operation, whether successful or not, should at the present time be recorded, to enable us to formulate definite lines of treatment. All must admit that many cases of hydronephrosis have been dealt with unsuccessfully from inadequate exploration of the ureters, but now aspiration or incision of the kidney will be only a *dernier ressort* after a negative exploration of the ureter by pelvic examination, rectal or vaginal, by catheterisation, or by abdominal section.

Calculi have been found to lodge either close to the bladder, about the pelvic brim, or just below the kidney. In the pelvic cavity the stone may be just beneath the vesical mucous membrane, and, in these cases, it has been extracted by dilating the urethral orifice,¹ or by incising the mucous membrane over it after suprapubic cystotomy in the male, or dilatation of urethra in the female.

When the stone has been felt by the side of the vagina at the base of the broad ligament it has been cut down upon and removed (Emmett,² Cabot,³ Rigney⁴). This "vaginal uretero-lithotomy" is advocated as being quite safe from injury to peritoneum, but its drawback is the production of a very troublesome uretero-vaginal fistula. Ceci⁵ has performed rectal uretero-lithotomy.

For stones below the pelvic brim not dealt with as above, and where the ureter is closely related to the peritoneum, they may be removed (a) intraperitoneally as in the cases of Cullingworth and Lane.⁶ Here the attendant risks from fouling of the peritoneum outweigh the ease of performing the operation; if it be done, the suturing of the ureter must be very perfect. (b) Retroperitoneally, as in the case recorded below, and in one by Twynam of Sydney.⁷

At the brim of the pelvis and above several cases have been dealt with extraperitoneally (see cases of Kirkham,⁸ Perkins,⁹ Cabot,¹⁰ Ralfe and Godlee¹¹).

The details of the case are as follows:

A. H., a married woman, aged 23, was admitted into St. Thomas's Hospital on May 8th, 1897, under the care of my colleague, Dr. Hector Mackenzie. The family history was good. At the age of 15 she first had pain in the side, which came on gradually, lasting for periods varying from one to three days. During an attack she had always intense sickness, and it was painful to pass water; the urine was noticed to be dark red with blood and very thick. Her catamenia were regular. Sometimes she would be a month without feeling any pain. At the age of 20 some swelling was first noticed, which would disappear at the times of the painful attacks. About one year ago she had a very severe attack, since which date the swelling has persisted; this took place just after the birth of a child, which lived six months. About this date (seven months ago) she was admitted into Adelaide ward for her swelling, and as this was found not to be of pelvic origin she was transferred to the medical side. The swelling was then pronounced to be of renal origin, and she became an out-patient under Dr. Mackenzie, during which time she had much the same symptoms, and the swelling increased in size.

On readmission (May 8th) she showed no signs of disease except the tumour. The right side of the abdomen above the umbilicus was markedly fuller than the left side, being especially round and prominent about 2 inches from the middle line; there was some fullness in the right flank. On palpation the tumour was lobulated, and fluctuation could be