my experience rapidly fatal, unless the symptoms can be modified by treatment. I have seen cases, and these are the worst, where the symptoms have commenced with violent retching, it can hardly be called vomiting, the evacuations from the bowel being almost *nil*, simply a little clear albuminous-looking matter being passed occasionally. These cases are generally fatal in a few hours. In those cases where the patient has frequently repeated rice-water stools of some quantity, where the vomiting is occasional and the patient is not extremely restless, the prognosis is, in my experience, hopeful, indeed favourable, as long as these symptoms last. These patients generally pass urine between the twenty-four and forty hours after the commencement of the suppression, and, generally, the pulse can be distinguished at the wrist about the same time. In such favourable cases thirty-six hours is the average time at which, in my experience, urine is first passed and the pulse returns to the wrist. Now, with these two extremes, I have found treatment in the former to be very unsatisfactory, all efforts to promote secretion from the bowels being usually fruitless. In the latter class of cases good nursing is almost all that is required. But it is in those cases which tend to pass from the latter to the former class that active treatment comes in. A patient becomes more restless, retching increases in frequency and violence, and the stools become scanty and less frequent. A timely dose of calomel or of castor oil, or of the two simultaneously, I have often seen to have the effect of causing the discharge from the bowel to recommence, and the retching appears to diminish as a consequence, and the case has resumed its former character. I have seen an enema have the same effect after the castor oil and calomel had failed. Where the endeavours to re-establish the flow from the intestines have failed the case has invariably proved fatal. Giving the calomel is occasionally extremely troublesome. Placing five grains on the tongue, and then letting the patient drink it if he has the power to do so, is the most satisfactory way of giving the drug; but often the patient is unable to give assistance himself, and I have seen the calomel sticking on the tongue and gums in such cases. Here the castor oil seems to carry down the calomel very efficiently. The general treatment I have always adopted is, like all the varicous treatments, theoretical. My theory is that the disease is due to a certain state of the atmosphere, which acts upon the susceptible subject, by so altering the constitution of the body as to cause, among other symptoms, a drain of the alkalies. I adopt the alkaline treatment, giving alkaline drinks to the patients, to be taken in small quantities as often as the patient calls for drink, otherwise to be given at stated periods. Plenty of common salt in the congee, generally arrowroot or cornflour, is always appreciated by the patients. I do not hold that my theories are right or that any other theory is wrong. I have simply given my ideas culled from my own experience.

Bedford.

ON THE SYMPTOM OF ABDOMINAL PAIN IN SLOW INTRA-PERICARDIAL HÆMORRHAGE.

By W. J. NAISMITH, M.D. Edin., C.M.,
CONSULTING SURGEON TO THE Ayr COUNTY HOSPITAL.

WITHOUT presuming upon the expression of any opinion as to the previous recognition and description of this symptom by other observers, it may be sufficient to remark that no place seems to be found for it in the symptomatology of so grave a mishap as this as set forth in our ordinarily accessible text-books. Of cardiac and præcordial pain, sighing respiration, fluttering pulse, coldness of extremities, sensations of choking and constriction, and of that *besoin de respirer*, with sense of impending dissolution, which may amount to the acutest orthopnoea, we have, indeed, definite account; but that there may also occur in a certain proportion of cases of intra-pericardial hæmorrhage this symptom of abdominal pain, so marked, yet so unaccountable as to lead either to a diagnosis of peritoneal or enteric mischief on the one hand, or to a refusal of a certificate of death on the other, I hope to show by the brief record of the following cases which have come under my notice in the course of medico-legal investigation.

1. *Rupture of Aneurysm*.—H. D—, an active powerful man, aged forty-eight, an old soldier who had put in his twenty-one years' service, and *ipso facto* presumably the subject of vascular degenerative change, was found lying on the ground, close to a railway station, where he had employment as a porter. He was much exhausted, said he had felt "something give way in his chest," which made him sink down about an hour before, and complained of pain in the region of the abdomen. The medical man who saw him after he was carried home, to whom I am indebted for these particulars, found him in a condition of collapse, with dorsal decubitus, head and shoulders being raised; a weak pulse; some tightness across the chest, but with general abdominal pain of such intensity as to assert itself as the most prominent symptom of the case, and to suggest the treatment adopted—namely, sedatives and poulticing. Externally there was the hardness of muscular contraction, no swelling or tympanites, and toleration of pressure without elevation of the lower limbs. There was no vomiting or hernial protrusion. Dyspnoea had not been very marked; a symptom this, however, which, judging from Fischer's published record of cases of pericardial distension following wounds of the heart, seems by no means a constant one. Death supervened rather suddenly in six hours. On post-mortem examination the abdomen was in a state of apparently absolute normality; no effusion or signs of peritoneal, gastric, or enteric mischief; absence of all conditions obstructive of intestinal lumen; organs healthy. The pericardium, however, was distended with clots and fluid blood, which had issued from an opening of the size of a small pea in an aneurysm involving the first or ascending portion of the aortic arch. The vessel was extensively atheromatous, and the sac, which was about the size of a hen's egg, had opened posteriorly at a spot where its walls had undergone more rapid attenuation. The heart itself was pale, flabby, and friable, with valves competent; other organs normal.

2. *Rupture of Right Auricle*.—E. L—, a labourer, forty-five years of age, and well nourished, had received a severe blow on the front of the chest, which had knocked him down, in the public-house where he had been drinking. The blow was delivered with the clenched fist, and took effect at or near the middle of the breast. According to another account, he tripped over a form and fell heavily on his chest without any blow. He got up and walked some little distance home, feeling a sense of weight and slight pain in his chest, but appearing upon his arrival very much as usual. In an hour or so he went to bed, however, complaining of pain in his "belly," for which, he said, he ought to have some "opening medicine." The medical man who was sent for ordered it along with mustard and linseed applications externally, the marks of which, visible on the abdomen at the subsequent necropsy, included both the epigastric and umbilical regions. There was prostration with weakness of pulse, but it is in evidence that at this period the case was characterised by no feature of grave urgency, and that abdominal pain was undoubtedly its salient symptom. After the visit he became rapidly worse, and died in eight hours. There had been no vomiting. On post-mortem examination, a careful investigation of the abdomen failed to reveal anything explanatory of ante-mortem pain. As in the previous case, the organs appeared healthy and intact, without sign of inflammation, effusion, or obstruction; but on opening the chest, there being no mark of violence externally, the cause of death was apparent. The pericardium was full to distension of clots and fluid blood, and there was a rupture in the form of a fine slit a quarter of an inch in length and longitudinal in direction, situated centrally on the posterior aspect of the right auricle. The opening was rendered valvular by the close internal juxtaposition of a small clot. The heart was of normal size, cavities uncontracted and nearly empty, valves competent, but walls pale, soft, and friable. The aorta also exhibited signs of degeneration. Other organs normal. The case is additionally interesting—(1) in so far that the lesion is, apart from penetrating wounds of the chest, an infrequent one; (2) as an example of violence rupturing the right auricle, spontaneous rupture, as is well known, being almost invariably associated with the left ventricle; (3) in relation to the amount of exertion exhibited, and to the period of survival, though in this respect it is easily distanced by the recorded case of Rust, where, after right auricular rupture, the patient lived fourteen hours.

3. *Stab of Left Ventricle.*—J. M.—, a young man of twenty-five years, was found lying on a roadside one autumn morning (at 5 A.M.) by some field workers proceeding to their work. He lay on his back, with his head supported by the activity of a grassy bank, breathed and spoke with difficulty, was conscious, and profoundly weak. His clothing was soaked with blood, which appeared to have issued from a transverse cut, about an inch in length, on the left front of his waistcoat. He did not seem to apprehend a mortal wound, expressing much concern when this was suggested to him; but besought the bystanders not to move him, and requested that his trousers be unbuttoned, as he was suffering from great pain in his "belly." He was placed upon a cart for removal to a hospital, but, as might have been expected, the jolting proved too much for him, and he died on the way without having been seen by a medical man. The case differs from the other two in this last particular, and it is proper that the point should be stated, though I do not apprehend that this account of the circumstances as obtained from the statement of the witnesses will suffer for lack of professional authority. It was subsequently proved that the man had been stabbed in a quarrel shortly before midnight preceding, on the spot where he was found. Death ensued in about six hours. The necropsy (eight hours after) revealed a horizontal clean cut wound or stab, with sharp angles (the knife proved to be double edged), and measuring nearly an inch in length in the nipple line of the fifth left interspace. This had passed through the pericardium, and penetrated the left ventricle by a horizontal opening half an inch long, at the distance of an inch from the cardiac apex. A small firm clot lay over the inner aperture of the wound into the ventricle, which was contracted, and, in common with the other cardiac cavities, nearly empty. The pericardium was distended with clots and fluid blood, a quantity of which, moreover, had found its way into the left pleural cavity. All the organs appeared normal and healthy, and nothing was found in the abdominal cavity explanatory of the pain reported to have been there experienced before death. It seems not unreasonable, therefore, to regard it as directly connected with the thoracic lesion; either, that is to say, with the primary solution of continuity, or with the pressure of the consequent hæmorrhage.

Reasoning by analogy from other manifestations of reflex action—as, for example, from the familiar one of testicular pain when it is pathognomonic of vesical or nephritic involvement, or from that other of surgical import, in which a painful knee is expressive of a diseased hip, this symptom of abdominal pain under the conditions described seems to be intelligible enough. In each of them the primary irritation or exciting cause is intermediate—that is, interpolated at some spot between the "supreme centres" or cerebral reflecting media, and a distant, perhaps I should say peripheral, point of actual sensation. In the instance under consideration, may it not be inferred that the intra-pericardial or cardiac irritation exciting the cardio-inhibitory centre in the medulla through the inhibitory fibres of the vagus is reflected downwards to the solar and superior mesenteric plexuses with which that nerve is in direct connexion? Or, again, seeing that, according to the teaching of Rutherford and others, "the powerful stimulation of a branch of a sensory nerve is apt to spread in the sensory area of the brain to cells other than those in immediate relation to that branch," may it not be possible, the pneumogastric being the sensory nerve of the heart, that the powerful irritation conveyed through it to the medullary cardiac centre is disseminated to other cells connected, say, with the sensory fibres of the great splanchnic; that the impulse thus derived from the cardio-inhibitory centre in the medulla is conveyed through the spinal cord, dorsal spinal nerves, thoracic ganglia, and sensory fibres of the great splanchnic to the solar plexus and intestines, there to find expression in the phenomenon of pain?

Reversal of the direction of this stimulus of irritation finds more common illustration. We know, for example, after division of the great splanchnic, that stimulation of its central end leads to reflex cardiac inhibition, that irritation of the small intestine, as experimentally demonstrable in the frog, is followed by retardation of the heart's action; and it is of interest to observe that a writer like De Whytt, though unaware of its explanation, has nevertheless recorded his acquaintance with the fact. In his "Sympathy of the Nerves," at p. 499 of the collected works, published 1768, he says, "A violent spasmodic pain in the stomach or intes-

tines often renders the pulse much slower than in a state of health"; and again, "a disordered state of the stomach and intestines will produce palpitations, intermissions of the pulse, &c." De Whytt was apparently aware, moreover, though ignorant of its mechanism, of the effect of the spreading of irritation through a sensory branch to cells other than those in its immediate relation—as demonstrated, for example, by Ludwig and Cyon; for while speaking of the teeth, in respect presumably of the fifth nerve, he says, "a rotten tooth will sometimes occasion a violent pain in a sound one, though at a distance from it; and the pain will cease as soon as the spoilt tooth is drawn or its nerve destroyed."

Lastly, in regard to the manner in which the irritation of intra-pericardial hæmorrhage is set up, and excluding solution of continuity either in the form of wound or rupture, with consequent division of nerve filaments, it may be objected that the theory of pressure alone is insufficient to afford an adequate explanation; that serous effusions, often to an embarrassing extent, are not uncommon; and that hydro-pericardium, whether of inflammatory or ascitic origin, is not considered to be productive of abdominal pain. But the cases do not appear to me to be parallel. For, apart altogether from the character of the fluid involved, its consistence and coagulability, we have, in the case of hæmorrhage, rapidity, or at any rate comparative rapidity, of effusion (a few hours only sufficing to complete the history of a case), and, in addition, a more or less normal condition of the serous surfaces upon which the impression is made; whereas in serous effusion accumulation is comparatively tardy, and the serous surfaces, through capillary or other disturbance, may be regarded as so modified in character as to have parted in some degree with their nervous sensibility.

Ayr, N.B.

EXCISION OF HÆMORRHOIDS.

By A. H. YOUNG, F.R.C.S.,

SURGEON TO THE SALFORD ROYAL HOSPITAL, ETC.

T. P.—, aged sixty-two years, was admitted into the Salford Royal Hospital in September, 1884, suffering from internal hæmorrhoids. He stated that he had been troubled with piles for some years; that three years ago he had been operated upon, and that about a year after the operation the piles were as bad as ever, and that he had since been a constant sufferer. There was nothing specially noteworthy in the clinical features of the case; the hæmorrhoids formed large florid projections of the rectal mucous membrane, and involved the whole circumference of the gut immediately above the junction of skin and mucous membrane. They readily protruded on straining and bled profusely. The man's general appearance bore the usual indications of long-continued and oft-repeated hæmorrhages which form so striking and so common a feature in cases of internal hæmorrhoids. On September 19th, the complete circle of hæmorrhoids was excised in the manner introduced by Mr. Walter Whitehead. The patient, who had been kept in bed for two days prior to the operation, was put well under the influence of chloroform, so that complete surgical anaesthesia was secured. He was then placed in the lithotomy position, with the pelvis well raised, and the sphincter was freely dilated. The hæmorrhoids were then completely exposed, and their removal easily effected by means of scissors. In the first place an incision extending round the circumference of the bowel was made immediately below the hæmorrhoidal ring. This incision in the main corresponded to the junction of skin and mucous membrane, but followed to some extent the irregularities of the hæmorrhoidal projections; it was extended well into the submucous connective tissue and exposed some of the fibres of the sphincter. A few snips with the scissors in the submucous tissue allowed the circle of piles to be drawn down, and its removal was completed by cutting round the healthy mucous membrane immediately above the hæmorrhoidal circle. In the separation of the hæmorrhoidal ring of mucous membrane from that above, only about a quarter of the circumference was cut at one time, and the margin of healthy membrane was united, by carbolic silk sutures, to the corresponding portion of skin at the anus, before division of the next