A CASE ILLUSTRATING GREAT TENACITY OF LIFE.

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THE case of the French Zouave who lived for some time after practically the whole of the head except the brain had been removed by a cannon ball is one of the classical instances of tenacity to life. Weinlechner in 1881 reported that a man had lived and been conscious for twelve hours after a fall and injuries which included fracture of the cervical spine, with laceration of the cord, paralysis (motor and sensory) of all the limbs, rupture of the sternum, bleeding into pericardial and abdominal cavities, and laceration of the spleen. Erichsen (*Lancet*, 1870) reported on a man who, after leaping a distance of 60 ft. down a hoist, lived for ten days, although suffering from (1) fracture of seven ribs; (2) perforation of the apex of the right lung; (3) tearing of the pericardium; (4) complete fracture of first lumbar vertebra; (5) pulverization of the right os calcis.

Mr. D'Arcy Power read a paper in 1890 to the Pathological Society of London, indicating that considerable laceration can take place in the spleen and in the kidney with very slight symptoms, unless a large blood vessel is implicated.

If urgent haemorrhage does not immediately follow injury, the most extreme internal injuries can often be undergone with a minimum manifestation of shock. The following case will bear this statement out, and emphatically illustrates the powers of tenacity of life in the human frame:

P. H., a dock labourer aged 45, was admitted on December 31st, 1909, to the Western Infirmary, Glasgow, about 9 p.m. About noon on the same day he had fallen down the hold of a ship, but details of the accident were not forthcoming. For some time after the accident he remained in a dazed condition. He then recovered sufficiently to walk home, a distance of half a mile at least.

He went to bed, but began to experience increasing pain in the left chest and side, especially over the lower ribs. A doctor was called in, and recommended that he should be conveyed to hospital, but thought so lightly of the condition that he held out hopes of the patient's speedy dismissal. There was some delay in the arrival of an ambulance, and the man was in *extremis* on his arrival in hospital. In the afternoon, according to the statement of the relatives, he had passed "a bowlful" of red blood from the rectum.

On admission no external marks of injury were visible except a cut over and some bruising of the left eye. Yet the patient was suffering from great shock; he was semi-delirious and extremely blanched, the lips and mucous membrane being livid white. The pupils were dilated and equal, and no sign of fracture of the skull could be recognized. If there had been epistaxis it had ceased prior to admission, and there was no bleeding from the ears. There was no marked abdominal distension, but tenderness was elicited on pressure on the abdomen and on the left chest. Some dullness existed in the left iliac and lumbar regions. He could both move his legs and feel, and there were no symptoms of injury to the spinal cord.

The patient rapidly sank into unconsciousness, and died with symptoms pointing to internal haemorrhage about an hour after admission.

Necropsy.

A post-mortem examination was made by Dr. Robert Muir, Professor of Pathology in Glasgow University, to whom I am indebted for the following report:

A well-developed muscular man, with rigor mortis still present. There was a fresh ecchymosis of the left eyelids, but no subconjunctival haemorrhage. A small fresh incised wound, $1\frac{1}{2}$ in. long, was found over the left supraorbital ridge. There was no external evidence of injury to trunk.

Head.—A fracture of the frontal bone is found extending down on the left side to the inner end of the supraorbital ridge. This part measures $2\frac{1}{2}$ in., and has a small offshoot on either side. On the base of the skull the fracture is traced along the left orbital plate and across the sella turcica to the right middle fossa, ending just above the base of the petrous bone on the right side. A slight diffuse subarachnoid haemorrhage is present, especially over the posterior part of the right parietal lobe. No gross lesions in brain or pons.

Thorax.—A fracture is found through the first left costal cartilage near the sternum, and some tearing up of the sterno-clavicular ligaments and fibro-plate; no actual dislocation. The second, third, fourth, fifth, and sixth ribs are broken through about their middles. The parietal pleura is torn over the broken ends of the third and fourth ribs, and 6 oz. of blood is found in the left pleural sac. The eleventh rib is fractured towards the exterior end. Both lungs oedematous, otherwise healthy; no perforation of left lung, only slight bruising. Heart fairly normal.

Abdomen.—Two pints of fresh blood are found in the abdominal cavity. The spleen is extensively lacerated. There is much haemorrhage into the connective tissue round the left kidney and suprarenal. The left kidney is markedly crushed and lacerated. The right kidney is uninjured, as also is the liver. The oesophagus, stomach, and intestine are uninjured. No blood in the rectal faeces and no injury to the bladder. No injuries to the bones or column.

This man, therefore, walked half a mile after receiving:

1. A fractured skull.
2. Extensive fractures of the ribs.
3. Pulping of the spleen.
4. Pulping of the kidney and lesions in the vicinity of the solar plexus.

The bowlful of blood had probably been passed by the urethra from the ruptured kidney.

He was a tall and powerful man, but to achieve the above feat showed a retentive tenacity above the ordinary. It is seldom that such an extraordinary case is met with, and therefore it was deemed desirable to report it.

THE INFLUENCE OF MARIENBAD SULPHATE WATER ON ALBUMINURIA.

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MARIENBAD.

ALTHOUGH our ideas of the importance of albumen and casts in the urine have materially changed during the past decade, yet their presence must still be considered a fact of pathological moment. We know also that there are a number of pathological states in which the kidneys show a defect of function producing a temporary appearance of albumen and casts.

For many years I have been impressed with the fact that the presence of albumen with or without casts is very constant among the patients who come to Marienbad. The same observation has been published already by Dr. Zörkendörfer, director of the Balneological Institute,¹ who found either albumen or casts in 80 per cent. of his patients. Pflanz,² who has published cases that have been for a long time under observation, likewise draws attention to the frequency of this phenomenon.

The patients who are seen in Marienbad may be classed for the most part in four groups: (1) The obese; (2) the arterio-sclerotic; (3) those of the gouty-rheumatic diathesis; and (4) the plethoric.

If we analyse these cases the fact emerges that it is in the class of plethorics, and more particularly in those affected with plethora abdominalis, that albuminuria and casts make their appearance in the largest percentage. The arthritic and the gouty appear to be also subject to this kind of albuminuria.

Furthermore we have observed that this form of albuminuria with casts is very favourably influenced by the use of sulphate waters. In those cases in which there was well-established chronic nephritis, with rise in blood pressure, uraemic symptoms, and cardiac hypertrophy, it was scarcely possible to point to any favourable influence: on the other hand, we must be especially careful to avoid overburdening the heart by the use of mineral waters. But when the albuminuria is a symptom of disturbance in renal circulation, the unloading of the abdominal vessels will manifestly exercise a favourable influence on the nephritis, and consequently on the albuminuria.

In these cases it is generally a question of individuals who lead a sedentary life, are frequently overfed, often give the impression that their abdominal circulation is disturbed, and frequently suffer from haemorrhoids. There is often also constipation; nevertheless this is certainly not the reason for the albuminuria, as one could assume it *a priori* to be a symptom of enteric auto-intoxication.³ Indeed, in a whole series of these cases not only is there no constipation, but rather frequent evacuation of stools, and even diarrhoea, existing as a symptom of intestinal catarrh due to this stasis. These patients generally exhibit a much distended abdomen, with symptoms of meteorism; the diaphragm is raised, and there is the characteristic displacement in the area of cardiac dullness described by Schütz.⁴ The subjective symptoms consist in a feeling of plethora after meals, severe flatulence, and