Her face is congested; the cheeks have a circumscribed patch of red colour in each, which is caused by enlarged vessels, each (vessel) being separately distinguishable. The lower extremities are very cold, œdematous, and slightly painful; the pulse small, soft, and quick; skin dry; tongue furred; thirst increased; appetite diminished; bowels constipated; and urine high-coloured. The liver is enlarged, extending from a little below the sixth rib to the umbilicus; the external jugular veins exceedingly congested, having a decided impulse, which is not quite synchronous with the carotid arteries; and the fulness of the lower part of the vein does not disappear on pressure being applied to the upper. The thorax is much deformed, and its capacity much diminished. On examining the lungs, they were found œdematous, and their bronchial mucous membrane slightly inflamed in some parts—in others, the respiration was puerile. Of the heart: total dulness on percussion from the lower edge of the third rib to that of the seventh, and laterally from about one inch to the left of the nipple to three-quarters of an inch to the right of the sternum. The impulse is scarcely perceptible, and then only about one inch below, and half an inch to the left, of the nipple. The sound varies, according to where you listen. When the impulse is felt, the first sound is somewhat shorter, sharper, and clearer than natural, and the sound louder; but close to the sternum, the first sound is very sharp, short, and clear, closely resembling the second, which is slightly increased in intensity and clearness. Both sounds can be heard at any part of the thorax, and are unattended by any bruit.

Diagnosis.—Dilatation of both sides, especially the right. The indications are—α, the increased dulness on percussion; β, the diminution of impulse from the left, and total absence of it from the right ventricle; γ, the approximation in character of the first to the second sound, especially in the right side; δ, the great distance from the precordial region at which the sounds are audible. The turgescence of the external jugular veins, which does not disappear at the lower, on pressure being applied at the upper part of the vein, and the dark-coloured hæmoptysis, indicate dilatation of the right side. The pulsation of the veins also makes it probable that regurgitation occurs through the tricuspid valve, although no bruit is audible, which perhaps may be accounted for by the congested state of the right side.

Diet. — Meat twice a-day; two ounces of wine, sago, arrow-root, and no vegetables; half a grain of elaterium to be administered directly; and let her have fifteen drops of tincture of sesquichloride of iron, five drops of tincture of capsicum, and one ounce of simple infusion of gentian, every fourth hour.

The bronchitis, œdema, and turgescence of the countenance, became alleviated to a slight extent, but she died on the 25th April, 1844, rather suddenly.

Post Mortem.—The heart was exceedingly dilated, occupying a space from a line drawn perpendicularly one inch to the left of the nipple to nearly one inch to the right of the sternum, and from the upper edge of the third rib to the seventh. The walls of the left side were slightly thinner than normal, the ventricle being about half an inch thick, the auricle about a line and a half; and the cavity of both dilated. The walls of the right side were much thinned—at the thickest part about one-sixth of an inch, and at the apex scarcely thicker than brown paper; the cavity enormously dilated, and the auriculo-ventricular opening not more than half closed by the valves. The lungs were much compressed—upwards by the liver, laterally by the ribs, and backwards by the heart; the right-hand part of its centre solidified: and they were both œdematous.

Case 9.—May 2nd, 1844. Mrs. P——, aged 40, has had bronchitis, with slight emphysema, for some years past, (for which I have frequently attended her,) and latterly, palpitation of the heart. She is slightly swelled about the face, which is of a yellowish tint, with a purplish circumscribed patch on each cheek, and livid lips. Much cough and expectoration, (about a pint daily.) Œdema of the legs, with slight effusion into the peritoneal cavity. On local examination of the thorax, rhonchus sibilans and mucous crepitation are audible, with prolonged expiratory murmur, and increased sonoriety on percussion; diminished impulse of the heart, the apex striking near the sternum—the first sound greatly resembling the second, especially near the sternum—and fulness without impulse of the external jugular veins. She was treated by—decoction of senega-root and vinegar of squills, with pills of sulphate of iron, followed, in about a fortnight, by half to three-quarter grain doses of elaterium twice a-week, at the same time that the other treatment was continued. These means afforded great relief, so that on the 7th June the anasarca was entirely removed; the bronchitis, dilatation of jugular veins, and the local signs of dilatation, were much diminished.

Case 10.—August 9th, 1842. E. S——, aged 46, has had palpitation and dyspnœa as long as she remembers, and these symptoms have, for many years, been attended with a cough and occasional hæmoptysis. Lately, the palpitation and dyspnœa have much increased, and prevent her from taking exercise; has occasional headaches, of a dull, oppressive kind. The dulness on percussion is increased; the impulse weak but regular; the apex striking between the sixth and seventh ribs; the first sound, short, sharp, and clear, much resembling the second; the pulse 88, soft, weak, and regular. No distention of the jugular veins, but the lips and face are congested.

Remarks.—The cases instanced here may be considered as instances of simple dilatation—that is to say, of dilated cavities, with diminished thickness of the walls; for if they were of the normal density, at the same time that the cavities were amplified, they would in reality be hypertrophied also. All the cases occurred in females of lax muscular fibre; this is most commonly the case, as dilatation is caused by some permanent obstruction to the circulation, by which the ventricle is kept constantly distended; if the obstruction had happened in strong, healthy persons, the increased efforts of the heart might have led to hypertrophy, and thus partially overcome, instead of giving way to it. Thus we find it happens in persons leading sedentary lives—first, because their general health and muscles become impaired; and secondly, because the circulation is not aided by the other muscles of the body, and congestion of the heart therefore happens. In the first case, the girl was weakened by spinal disease, followed by inflammation of the lungs, which was treated by powerful antiphlogistic remedies; and the circulation through the lungs was impeded by the pressure of the liver and ribs on them, thus causing great distention of the air-cells, (shewn by the puerile respiration,) and consequent pressure on the capillaries of the pulmonary and bronchial arteries. In the second case, by emphysema of the lungs, which is, perhaps, the most common cause of dilatation of the right side.

The rapidity with which it produces death varies very considerably, depending chiefly on the complications, and partly on the rapidity, with which the disease is produced. Thus, in the first case, death occurred at an early period, in consequence of the general ill-health of the individual, though not before the disease had proceeded to a very great extent; in the second, relief was quickly afforded, as the patient was moderately strong, and the dilatation was not very great; and in the third, the patient remained in the same condition for years, the disease not being cured, but certainly not increasing, so that unless it be very extensive, we may promise a patient relief, if not cure. The mode of death also varies, occasionally happening by syncope, apoplexy, or pulmonary hæmorrhage; but more frequently through the continued congestion of the system, producing anasarca, &c., and preventing the formation of the secretions. In a case which happened about twelve months since, immense hæmorrhage occurred from the vagina, (and perhaps uterus,) consisting of black and fluid blood, which was passed by a continuous dribbling, to the extent of some quarts, and caused death in two days; the patient had never previously shewn any symptoms of the hæmorrhagic diathesis. On making a post mortem examination, dilatation of the right side was shewn, which had been previously diagnosed.

FRACTURE OF THE COSTAL CARTILAGES, AND RUPTURE OF THE VENA CAVA.

By Richard Pyper, Esq.,

Assistant-Surgeon 11th (Prince Albert's) Hussars.

H. P——, aged 25, a driver in the Royal Horse Artillery, on the 21st of June, 1844, was thrown from his horse, and two of the wheels of the gun-carriage passed over his body. When I saw him, about two minutes after the accident, he was lying on his left side, with his body in a bent position, using violent convulsive motions of the upper and lower extremities. The respiration was difficult and oppressed, and the countenance pallid. The pulse was quite imperceptible at the wrist, and the heart's action scarcely audible: he was insensible. I had him immediately moved to a short distance out of the way of the guns, and whilst being removed, the muscles of his trunk and extremities became completely rigid and fixed, as if all the voluntary muscles were affected by tonic spasm; there was no mark of injury of the head. From the nature of the accident, and the symptoms above detailed, it struck me that some internal viscus was injured, and that consequent extravasation of blood was taking place; so, to give the poor fellow what I conceived to be his only chance, I opened the jugular vein, which at first bled pretty freely, and for a time his breathing appeared more tranquil and easy; but the muscles became quite relaxed, and the heart's action gradually

slower, till it entirely ceased, and he died in about ten minutes from the time I first saw him. He lost about three ounces of blood from the jugular vein.

Examination of the body twenty hours after death.—There was no external mark of bruise or injury on any part of the body. On removing the integuments, a considerable quantity of blood was found effused under and at the lower border of the great pectoral muscle on the right side, and on removing the muscular parts, there was presented on the same side a fracture of the cartilages of the sixth, seventh, and eighth ribs. The cartilage of the sixth rib was fractured about half an inch from its costal articulation, and the cartilages of the seventh and eighth ribs, which are naturally united together, were fractured about midway between the ends of those ribs and the sternum. The ribs themselves were uninjured. The sternum was fractured just below its articulation with the cartilage of the fifth rib; and the lower portion of sternum, together with the portions of the cartilages of the sixth and seventh ribs attached to it, were very little, if at all depressed; in fact, the fascia covering the sternum anteriorly was quite free from laceration, but the costal pleura was found ruptured beneath the situation of the fractured cartilages. On opening the cavity of the thorax, the whole anterior portion of the lower lobe of the right lung presented a dark, livid appearance, and was greatly congested with blood. All the other parts of the lungs were quite free from injury. About two ounces of coagulated blood was found in the right pleural cavity, which appeared to come from that effused under the great pectoral muscle, for the pleura covering the bruised portion of lung was in no place lacerated. On opening the pericardium, it was found filled with fluid blood, which came from a laceration in the ascending vena cava, extending from the internal surface of the pericardium to the right auricle of the heart; the pericardium was not injured in the least, but greatly distended with the blood it contained. The heart was small and extremely hard, and all its cavities were contracted and quite empty. The liver was uninjured, and the gall-bladder empty. The spleen was ruptured on its convex surface, and about an ounce of blood was effused into the abdominal cavity. All the other viscera were uninjured.

Remarks.—The rupture of the vena cava might, in this instance, have been produced by a violent contraction of the heart suddenly arresting the return of blood to the right auricle, at the same time that the vein was being obstructed lower down. The vein was ruptured longitudinally; and in that situation it is well protected anteriorly by the lower lobe of the right lung and pericardium; and although that portion of lung was very much bruised, yet the pericardium was quite uninjured; also the empty state of the heart's cavities, and the contracted state of muscle itself, point out some unusually strong action of that organ previous to death. However, the immense force which must have been applied to cause a fracture of the yielding cartilages might have been sufficient of itself to have ruptured the vein when distended, though the fractured portion of sternum was very little, if at all, depressed; for Cruveilhier states, (Anatomie Descriptive,) that "La flexibilité des côtes et de leurs cartilages permittant une forte dépression sans fracture du sternum, on s'explique la possibilité de contusions et même de *dechirures* du cœur, des poumons, et *des gros vaisseaux*, sans fracture des os du thorax." Moreover, the great distensibility of the vein would lead one to doubt very much the possibility of its being ruptured by the heart's action *alone*.

The possibility of the cartilages of the ribs being fractured without previous ossification I find denied by Boyer; however, Mr. S. Cooper, in his "First Lines on Surgery," states, that "the cartilages in their natural state are sometimes ruptured." And this case fully bears out that opinion; for although I found a few points of ossific deposit on the cartilages, and these situated chiefly at their costal articulation, yet the places where the cartilages were fractured were quite translucent, and perfectly free from ossific matter.

This case is also interesting in pointing out the great extent of injury which may take place to internal organs without any external indication; for though there was fracture of the sternum, and of the cartilages of three ribs on the right side, yet so little was the displacement, that the fracture was not discovered until the integuments were removed, though a careful examination was made previously. Also, there was considerable extravasation of blood under the great pectoral muscle; yet the injury which caused this produced no marks of bruise on the corresponding integuments; perhaps the great outlet for the blood, (viz., the fissure in the vena cava,) and the short time that elapsed between the receipt of the injury and the death of the patient, might in some way account for this want of bruise.

Portobello Barracks, Sept. 2, 1844.

ON THE SUCCESSFUL TREATMENT OF CONICAL CORNEA.

By F. B. Gervis, Esq., Surgeon, Tiverton.

In the Dublin Journal of Medical Science, vol. xxiv., there is a very elaborate paper, by Dr. Pickford, on conical cornea, written with great ability, and indicating a knowledge of that peculiar form of disease, to remove which has baffled the efforts of the most learned men of our profession. As my attention has been directed to this subject from reading the essay in question, I feel it incumbent on me to give a statement of a case of conical cornea which fell under my care about three years since. A young woman, twenty-five years of age, applied to me for defective vision of the right eye, occasioned by conical cornea. The cornea, as usual in such cases, was prolonged, (not opaque,) presenting an appearance as if a crystal projected from its centre, which, by the refraction of the rays of light, deprived her of sight, except in a modified degree, when looking at objects in a lateral direction, and then most imperfectly. She stated that the complaint had existed for two years, and that she had been a year and a half under medical treatment without any amelioration of her symptoms. The left eye was also slightly affected, with a disposition of the cornea assuming a similar appearance, accompanied with much lachrymation. At the time I saw this patient, she was decidedly debilitated by the use of mercury, which appears to have been used very freely, without the slightest advantage. As it was the first case I had ever seen, and as my attention had not been called to this form of corneal disease, I acted on my own judgment, without reference to the opinions of any author on diseases of the eye. I began by applying a blister to the temple, dressing it with the savine and cantharides ointment, mixed; and in order to restore her general health, I gave her carbonate of iron, in large doses, for two months, twice a-day, and the compound galbanum pill, in conjunction with the use of port wine and a generous diet. With a view of breaking up the laminæ of the projecting cornea, and to promote absorption of what I considered its thickened structure, or hypertrophy, I punctured it several times with a couching needle, and about three times a-week applied to the conical surface the argent. nit., making a sweep across it; the puncturing with the needle produced some opacity of the globular shaped projection, just as is seen after severe inflammation of the cornea. I then applied the ungt. hydrarg. nit. oxyd. daily to the eyelid, with marked success; and by perseverance with these combined means, I completely succeeded, within three months, in gaining my object—the restoration of her sight; and the cornea assumed its normal appearance. I have seen the young woman since the cure was completed; she continues perfectly well, and has returned to her employment without the least injury to her sight. The case made a great impression on my mind, as I cannot forget with what difficulty she came into my surgery, from her imperfect vision, and how completely her sight was restored. In the plan I adopted—the use of wine and iron—I acted on the principle laid down by Dr. Pickford, that whatever would restore the healthy functions of the nerves, or increase the energy of the nervous system, so as to enable the capillaries to resume their healthy action, would give a check to the disease. Dr. Pickford's opinion of the origin of this form of diseased structure is, that it depends upon some faulty action of the absorbent vessels and nutrient capillaries of the cornea itself, induced by the debility of the nerves of the part; this is a question I cannot decide, much doubt, I believe, still remaining as to the origin of this singular disease.

In a recent case of conical cornea, with opacity, in a young woman, the complaint had existed in both eyes nearly two years; vision was almost extinct in the right eye, so that she could not see my countenance, or discern any object fronting her, and but slightly in a lateral direction; there was considerable thickening of both lids, with inflammation, and my opinion was, that the constant pressure of the thickened lids on the eyeballs had occasioned the corneal projection, by preventing a free return of blood from the eyes. I applied the argent. nit. freely to the lids, and succeeded in removing the vascularity, with their thickened structure. I blistered both temples, and, as in the former case, dressed with savine and cantharides ointment, and then punctured the projection of the right cornea; she was also directed to apply the ungt. hydr. nitr. oxyd. to the eyelids every night. I then resolved to put Dr. Pickford's plan into practice, and gave her for six weeks twenty-five grains of sulphate of zinc, with half an ounce of sulphate of magnesia, every other morning before breakfast; the sickness produced by the emetic was violent at first, but less distressing subsequently. These combined remedies, with the daily use, latterly, of the tincture of iodine brushed over the right eyelid, succeeded in restoring the sight to