

seemed very low and feverish. He partook of some beef-tea and gruel; but expressed the greatest liking for some oranges, which were given to him.

April 18th. He was rather better. He still perspired a good deal, and had a slight cough, which seemed to trouble him. The bandages were readjusted. The swelling about the clavicle had increased, and the pieces of bone were much out of position, although every means were adopted to bring them in apposition. Cold lotions were applied, and a mixture of sulphate of magnesia and tartarised antimony was administered every four hours. His pulse in the evening was 96, and his breathing had improved.

April 19th. It was found that the broken clavicle was best in position during the time he was lying on his back; and as the figure-of-eight bandage was uncomfortable, it was abandoned, and his arm merely bound to his side, a large pad being placed in the axilla. The medicine acted freely upon his bowels; and he was more cheerful, and slept somewhat during the day.

April 20th. A slight amount of ecchymosis was seen in the right eye to-day, and some slight degree of paralysis of the upper lid of that eye. This had not been apparent before. He complained of no pain in his head; and there was no swelling or external mark of violence.

At night, his mouth was observed to be slightly drawn to the left side, but he was able to protrude his tongue quite straight, and it was moist and clean. He continued his medicine throughout the night, but at longer intervals.

April 21st. The ecchymosis had increased this morning; and he complained of some headache over the eye which was paralysed; but his general health was so good, and constitutional symptoms so little apparent, that the pain was attributed to the cough, and medicines were administered to allay it.

About nine o'clock the same evening, however, the pain in his head became suddenly worse, and its severity increased every moment, until it became quite unbearable, and coma gradually set in. This was immediately combated by mustard poultices, turpentine enemata, and cold affusion, but he gradually sank, and died at 3 A.M., perfectly unconscious; pulse laboured; breathing stertorous; and every symptom of compression of the brain.

POST MORTEM EXAMINATION eight hours after death. The right eye was much ecchymosed. Fluid blood was found under the scalp; the right temporal muscle was ecchymosed, and blood was found between it and the bone. A linear fracture was detected on the right side, across the squamous portion of the temporal bone. On removing the calvarium, a large clot, of about the size of the palm of the hand, was found between the bone and dura mater. It was very dark in colour, and adherent to the dura mater, extending along the branches of the meningeal artery in the temporal and parietal regions. The fracture commenced at the upper portion of the squamous plate of the temporal bone, and ran across the course of the trunk of the meningeal artery. Here the internal table was slightly raised, and presented a sharp point, which had pierced the vessel. The fracture then continued across the petrous portion of the temporal bone, running through the meatus auditorius internus into the occipital fossa, and terminated at the foramen magnum. The membranes and brain were healthy, but much congested. The clavicle was broken in two places, and surrounded by a mass of ecchymosed and ruptured muscular fibres. The sixth and seventh ribs were fractured at their angles. The seventh penetrated through the pleura costalis, but not into the lung. The cavity of the chest was filled with fluid. The lungs were healthy; and no injury was perceptible in any other organ.

REMARKS. This case is instructive, inasmuch as it shows that a great and fatal injury may take place without any immediate symptoms being produced; and it further points out the necessity of particularly noticing any symptoms, however small, in cases of injury produced by great violence, and immediately combating with any disease that may be insidiously progressing.

That operative interference in this case would have been worse than futile, is fully borne out by the *post mortem* appearances; whilst at the same time they fully prove the correctness of a statement made by Mr. Prescott Hewett, in his *Lectures on Injuries of the Head*, that ecchymosis of the ocular conjunctiva, when extensive and gradual in appearance, is a true sign of fracture of the base of the skull. The usual signs of fracture—haemorrhage from the ears—was prevented by the fissure having in this case crossed the petrous portion of the temporal bone more internal than the cavity of the tympanum,

and then running backwards into the occipital fossa instead of the usual course across the body of the sphenoid.

This case holds up an example also of the difficulty in severe fracture of the clavicle, of successfully maintaining the pieces of bone in direct apposition, and points to the fact that this object is better attained by a pad, large and firm in the axilla, and a simple bandage enclosing the arm, than by the old and much used plan of the figure-of-eight bandage—which, in this instance, was not only painful and inconvenient, but absolutely tended to increase the displacement of the separated fragment.

Original Communications.

REMARKS ON MYALGIA, OR MUSCULAR PAIN.

By THOMAS INMAN, M.D., Liverpool.

IN previous communications, I have called the attention of the profession to the subject of muscular pains, and to the frequency with which they are mistaken for neuralgic, hysterical, or inflammatory affections; and I have stated as a general rule that myalgia (*μῦς*, a muscle; *ἀλγέω*, I suffer pain) is unattended with fever. Further experience has, however, induced me to modify this opinion; and the subject is of sufficient practical importance to warrant my inviting attention to it. I will commence by reciting the following case.

CASE. Miss R., aged 10 years, of frail make and delicate constitution, yet of very active habits, had an attack of measles, from which she was convalescent about the tenth day. At that time she was allowed to run about as usual out of doors, and to resume her usual lessons. On the second day, a Sunday, when she had been twice to church, and playing in the garden too, she was seized in the evening with acute pain in the side whilst practising a hymn tune and singing. The suffering was so severe that the medical attendant was summoned. He considered the complaint to be pleuritic; but taking into account the recent recovery from measles and the patient's condition, he contented himself with giving very mild antiphlogistic medicine, and ordering an abstinence from solid food. Next morning the pain was absent. The child ran about as usual, but appeared languid; and the pain returned in the afternoon with great severity. The same means were continued with the same results; but on the third or fourth day, the pain was accompanied with well marked feverishness, which lasted till morning. The paroxysms of pain now diminished, but the evening fever became worse and worse, assuming at last the character of infantile remittent (a disease from which she had previously suffered). On the eighth day, some slight râle was heard in the chest, and I was called in consultation on the case. When I saw the child, I found her very pale and languid, almost confined to her mother's knee. The pulse was 130; the skin cool; the tongue clean; the bowels regular; and the eye bright. There was full disposition to laugh at a funny remark, but a fear to do it lest the pain should return. I then elicited the preceding history. A careful physical examination of the chest failed in detecting any important sign of disease. I was told that the child had only had two pieces of dry toast in the way of solid food since the illness began; and that the evening fever was quite as severe as it was when I saw her in the remittent attack. I considered the complaint was simply myalgic; and it was readily agreed that the treatment should be altered. Egg beaten up with wine and water, jelly, blanc-mange, cream, and bread and milk or chicken, were to be given, as most convenient, every three hours; and citrate of iron used as a medicine. Two meals intervened between the visit and the ordinary time for the feverish attack; and the fever did not return. In two days, I found the patient so much better, that further attendance was unnecessary.

I have met with three other cases of a similar kind. In two, the patients had been "confined" only a day or two. The feverish symptoms were well marked; and peritonitis was suspected at first. In the third, the liver was supposed by the patient to be diseased. In all, a careful consideration of circumstances induced the belief that the complaints were purely myalgic. The treatment was appropriate, and the recovery rapid. As the gentlemen, however, in whose practice they occurred have, I believe, an intention of reporting them individually, I cannot make larger reference to them now.

In the case above related, we have this very remarkable

fact, that the fever came on after the use of antiphlogistic remedies and low diet, and increased in severity under that system, while it disappeared at once under the use of more generous diet and stimulants. The same fact was apparent in the other cases to which I have alluded.

An occurrence so striking as this, leads us to consider the subject of fever, and under what circumstances it comes on. We find that it attends extensive inflammations; is common in exanthematous diseases; is present in the early stages of catarrh; it forms the prominent symptom of typhus; under the name of hectic it is generally found in phthisis, hip-joint disease, and others of a similar nature. Prolonged mental exertion will bring on feverishness as well in the adult as the child; and hunger and want will run insensibly into typhus. With the fever there is always a more or less permanent elevation of the temperature of the skin, etc.; there is also a steady diminution of weight as long as the fever remains. Now there is strong ground for the belief that our animal heat is produced and kept up by the slow combustion (*eremacausis*, as Liebig terms it) of our bodies. Assuming this to be true, we can come to no other conclusion than that fever indicates a more than usually rapid combustion of one or more of the organs or tissues of the body; for augmented heat, *ceteris paribus*, must imply increased combustion. In other words, the bodily heat is an indication of the expenditure of bodily fuel. Now, it is tolerably clear that expenditure of fuel may take place under various circumstances. Acute inflammation and chronic, extensive ulceration and suppuration, with defective appetite, will all produce disproportionate waste, and consequent fever. Muscular exertion may do so too. Direct experiment has proved that the heat of a muscle is augmented one degree of Fahrenheit whenever it contracts. Experience tells us that continuous contraction expends the material; it tells us, too, that nothing heats or warms us so completely as active "exercise"; *i.e.*, brisk and continued muscular exertion. It also tells us that nothing exhausts us more than long continued bodily labour without adequate nourishment.

Muscular exertion, then, implying a great expenditure of fuel, let us inquire whether it can produce feverishness. If we turn to books, we find Dr. C. J. B. Williams, in his *Principles of Medicine*, remarking: "Hence the low typhoid or adynamic fever which sometimes follows prolonged fatigue." "A serious part of such disturbance is the sleeplessness, which, after extreme fatigue, brings the patient into a state nearly resembling delirium tremens." "In these conditions, diffusible stimulants are the best narcotics." If we turn to our personal experience, we can remember many instances in which a feverish night has followed a day of unusual fatigue—how, whenever we have pedestrianised so long that we have had no appetite for food at our journey's end, we have been tormented at night by dry hot skin, thirst, troubled sleep, and half delirious dreams. We have ourselves seen cases of intense fever ending in phthisis produced by a race for a wager; and Dr. Williams states that the worst cases of pneumonia he has witnessed have been in boys at school after excessive exertion at foot-ball or other play. We next turn to the experience gained in lying-in hospitals, in which a large proportion of patients necessarily have a vast amount of labour without a corresponding amount of food. (The amount of physical exertion put forth by the voluntary muscles during a long confinement, is far greater than that undergone by any man employed in ordinary work. Men know nothing equal to it except it be prolonged labour at the oar or the pumps at sea.) We find Dr. Churchill remarking upon ephemeral fever: "that females are especially liable to it during the early part of their convalescence." Amongst the causes, he enumerates "the impression of cold, perhaps, on rising from bed or changing the room." (These causes imply muscular exertion on the part of the patient; and in one of the cases which have come under my notice, the attack was distinctly determined by the patient dressing, sitting up, and nursing her baby, the day after her confinement.) "Fatigue, mental agitation, and want of rest," are further enumerated amongst the causes of the complaint; and amongst the symptoms are palpitation, headache, pain in the back and limbs, soreness of the skin, rapid and irregular pulse," etc. Those who have done me the honour to read my previous communications, will recognise in these symptoms the characteristics of myalgia; and muscular pain implies muscular exertion disproportionate to the patient's strength.

To these observations it will be answered, that hundreds and thousands of cases occur in which there is excessive muscular exertion without feverish symptoms following. The fact is undeniable; but the objection is not valid. We do not the

less attribute tetanus to a wound, because millions who are wounded never have lock-jaw; nor do we the less attribute our soreness to unusual fatigue because our companion who went through the same work feels no such result. If it be a positive fact that feverishness does follow in some instances, and really depends upon great muscular exertion, that fact is not vitiated by the remark that no feverishness follows in other instances. In all the cases that have come to my knowledge, however, the muscular exertion has been superadded to other causes of debility, loss of blood, privation of food, antiphlogistic medicines, etc.; and it is probable that the feverishness depends upon the muscular exertion being vastly disproportionate to the patient's strength at the time. I conclude, then, that the following propositions are not far removed from truth:—

1. Feverish symptoms do sometimes attend myalgia or muscular pain.
2. Fever is not necessarily an indication of the presence of inflammation.
3. It does not always require antiphlogistic remedies.
4. It indicates an increased expenditure of animal fuel.
5. It is frequently relieved or cured by stimulants, tonics, generous diet, etc.
6. Pain, soreness of the skin, and tenderness on pressure, even though attended with well marked feverish symptoms, are as often due to a myalgic as to an inflammatory cause.

Clinical Lecture

DELIVERED IN THE

QUEEN'S COLLEGE, BIRMINGHAM,

ON MAY 8TH, 1858.

By J. SAMPSON GAMGEE, Esq., Surgeon to the Queen's Hospital.

CRITICAL THOUGHTS FOR CLINICAL STUDENTS.

GENTLEMEN,—I had purposed devoting the first lecture of the Summer Course exclusively to general considerations on clinical study; but, as I cannot reconcile myself to leaving even a single lecture without presenting you some suggestive clinical material for reflection, I shall briefly relate to you the results of some cases which we have often talked about at the bedside, but the treatment of which was concluded during the vacation, when most of you were absent. All epochs of a case are interesting; but if one more than another, it is the last one. If results of treatment, particularly surgical, were always faithfully recorded, truth would be the gainer.

To relieve Jane Stephens of the great discomfort occasioned by her enlarged uterus, for many years completely prolapsed, you doubtless remember my performing a plastic operation last December, according to the established rules of perineorrhaphy. Union was perfect, and the patient left the hospital wearing a good T bandage, apparently much relieved. She had not walked about many days, however, before the uterus again peeped through the vulva—a sufficiently remarkable fact, considering the smallness of this aperture, and the large size of the organ. The new raphe held good; to elasticity was the result owing. The patient was again admitted into the hospital. I dissected a small horseshoe-shaped piece of skin and mucous membrane from the posterior angle of the vulva, even slicing away the corresponding extremities of the nymphæ, and brought the raw surfaces together by a couple of deep sutures secured on pieces of bougie, with three additional superficial sutures. All progressed favourably. Union was perfect; the patient had not an untoward symptom; and she left the hospital about a month since, better, according to her spontaneous statement, than she had been for many years. I have since seen her. She wears a soft belt round the hips, and a central band with pad corresponding to the vulva; the new perinæum is strong; the uterus within the aperture; and the poor woman enjoys existence conformably to her station, and is enabled, by work in a factory, to contribute to the maintenance of her family. When lecturing, some subsequent day, on the case of Mary Hyatt, now in hospital for a similar affection, I purpose going fully into the subject.

A less satisfactory case is that of Catherine Neville, from whose right cheek I removed a fibro-cystic tumour, about three months ago, by a curved incision extending from the zygomatic process of the malar bone to within a little of the angle of the mouth. Hæmorrhage was rather free, but the operation