She was ordered to have two ounces of wine, rice pudding, and mutton broth.

April 6th. The patient had not slept much during the night. She suffered from pain referred to the sacrum, and tenesmus, up to 4 A.M., when she passed a large solid healthy looking evacuation, and had been easier since.

11 A.M. I found her asleep. The countenance was natural; the skin warm and moist; the pulse 108, of moderate volume, and compressible; the tongue clean and moist. Between two and three ounces of "laudable" pus, which had never had any fecal odour, exuded from the wound in the course of the twenty-four hours. Her appetite was good; she had no thirst. She was ordered to have plain suet pudding and mutton broth, and to omit the wine. The draught was continued; and she was ordered to take a grain of solid opium at bedtime, if required.

April 7th. The bowels had been opened twice since yesterday morning. The patient slept soundly after taking the opiate. The skin was warm and moist; the pulse 108, of moderate volume, and soft. She was lying on her side, for the first time since the operation.

April 8th. With the exception of being troubled with flatulence, she continued to progress favourably. The discharge of pus from the wound was not quite so copious. Her appetite had greatly improved. She was put upon half diet, and ordered to have three ounces of sherry daily.

At 10 P.M., I was called to see her, in consequence of a profuse discharge taking place from the bowels, accompanied by flatus. She was free from pain, and complained of no uneasiness or tenderness of the abdomen. I directed her to take a draught of chalk mixture, with aromatic confection; and ten minims of laudanum every three hours, so long as the purging continued. The diarrhoea ceased after one dose of the medicine. She continued to take her bark mixture and wine.

The ligature came away on April 14th, sixteen days after the operation. The wound had perfectly healed on the 21st, when she expressed herself as feeling quite well.

April 25th. She was discharged from the Hospital. Up to the present time, I have seen her every year, and found that she has enjoyed excellent health, and that there has been no enlargement of the other ovary, or any derangement of the other abdominal organs.

ON DISEASES OF JOINTS.

By HOLMES COOTE, Esq., F.R.C.S., Assistant-Surgeon to St. Bartholomew's Hospital, and to the Royal Orthopædic Hospital, etc.

IV. LATERAL CURVATURE OF THE SPINE.

[Continued from page 165.]

If the treatment of lateral curvature be involved, according to some authors, in mystery, the fault lies with those who set aside in this special subject the general principles of surgery. "The disease," says a modern author, "consists simply in a relaxation of the muscles and ligaments of the spine, in consequence of which the vertebral column, being no longer able to support the weight of the head, neck and shoulders, becomes curved to one side." The condition of the vertebral column is, therefore, analogous to that of the bones of the leg in knock-knee (*genu valgum*).

Suppose a surgeon were consulted by a young person suffering from knock-knee and flat-foot, would he recommend his patient to strap a knapsack on his back and take a walking tour through a hilly country? Assuredly not; he would advise rest; he would apply splints outside the leg, and supports to restore the lost arch of the foot.

But let the patient be a young girl with a curvature of the spine, and in a moment the current of the surgeon's thoughts is changed. He recommends tonic medicines, frictions of the muscles of the back, the use of dumb-bells, calisthenic exercises, weights on the top of the head! By those means he assures his patient, whom he knows to be suffering from weakness of ligaments, that the muscles of the back may be strengthened and that the increase of the deformity may be prevented.

I repeat that the muscles have no share in originating the deformity: the dissection, recorded in a former number of the JOURNAL, of a fetus born with lateral curvature, proves this point. But when the spine is curved, the muscles in the concavity contract like the string to a bow, and if they could act, they would increase the deformity.

I will next direct attention to the following point. The deformity, once established, increases at different rates of progress, if unchecked, through life. There is no age at which sufficient consolidation of the bones and ligaments occurs to secure the patient from increase of the evil.

CASE I. ROSA S., aged 11, residing near Cambridge, became the subject of a very slight lateral curvature during the year 1857. I saw her November 18th, 1857, in conjunction with a professional friend, and it was arranged, not without misgiving on my part, that in consequence of the small amount of deviation from the straight line, she should have only that support which would be afforded by a pelvic band and two crutches to extend to the axillæ. Proper directions were given that the patient, a fine tall girl, should take a sufficient amount of rest. I heard from the mother, on several occasions, that there was no marked improvement: then came intimation that the curvature was increasing, and I according arranged to see the child, February 24th, in London. There was a well marked curve to the right, including the whole of the dorsal vertebrae; the lumbar vertebrae were upright, but it was easy to see that in a short time a compensating inferior curve would form. The health was good, except that there was general weakness after exercise, and the patient disliked the deformity especially as affecting the shoulder and hip. I directed a pad to be applied by means of a steel bar, worked with screws and pressing on the convexity of the curve, as is usually done at the Orthopædic Hospital. A steel crutch extended along the left side of the body to the corresponding axilla. Sufficient time has not elapsed for me to pronounce that the patient is cured. But she is about to return to the country in comparative comfort: the deformity will not increase, and she will be enabled to take exercise suited to her age in safety. In the course of a few months, she may be able to wear properly constructed stays.

CASE II. A young girl, aged 18, named Sarah P., apprenticed to a draper, applied to me at the Royal Orthopædic Hospital, January 1858, in consequence of lateral curvature of the spine of two years duration. She had consulted many surgeons in the county whence she came, and had been dissuaded from wearing instrumental support. The curvature increased. She experienced general pain over the back, extending to both shoulders, especially the right; pain extended round the ribs, along the course of the intercostal nerves, producing "stitch in the side;" there was frequent palpitation of the heart and faintness towards night time. For the last six months, menstruation had ceased. Upon examination, I detected a single long curvature, including all the dorsal and the upper lumbar vertebrae, the convexity directed to the right. January 18th, 1858. I directed the application of the instrument usually employed, with a single pad.

February 14th. She appeared to be greatly relieved of all the pains which had been fixed in the back; she had gained a quarter of an inch in length.

February 21st. Menstruation has returned; her general health is much improved; she considers herself fit to return to her home, above one hundred miles from London, promising to present herself in the course of a few months.

CASE III. MARIA M., aged 16, has been the subject of lateral curvature for three years; she suffers from great weakness and pain in the side; her occupation is that of dress-making, and she sits thirteen hours a day. Upon examination, there was detected a double lateral curvature, namely, a short curve to the right in the upper dorsal region, and a long curve to the left, extending from the dorsal to the lumbar vertebrae. January 18th, 1858. An instrument with a double pad was applied.

February 28th. The case under treatment. The pain and sense of weakness is greatly relieved.

CASE IV. HARRIETT B., aged 26, domestic servant, occasionally has carried a child; has suffered from lateral curvature for the last three years. It has of late so much increased as to prevent her following her occupation. The symptom of which she complained most was pain under the inferior angle of the right scapula. Upon examination, it was found that she had a single curve to the right.

February 18th. An instrument, as usually constructed, with a single pad, was directed to be worn.

February 24th. The pain has subsided. The spinal curvature is becoming straight.

A young woman has been under my care, since October last, with double lateral curvature. An instrument has been applied, and she has gained at the present time one inch and three-quarters in height. I have given directions that she should return to the country, and see me again in a couple of

months, when I hope to be able to apply with success support of a simpler character.

Mr. Tamplin has at the present time a case under his care, in which the patient is above thirty years of age, and he has had others much older. I have related in a preceding number the particulars of a case, aged thirty-three.

There are many who, on the perusal of these cases, will exclaim: we acknowledge the disease is progressive; but you, by your instrumental support, may afford, it is true, temporary relief, yet when that support is removed, the disease will be worse than ever. You weaken instead of strengthening the vertebral column. I deny the accuracy of this reasoning in my own name and that of my colleagues at the Orthopædic Hospital. It is opposed to our daily experience. The relief afforded by instrumental support is *not* temporary; and as a witness, to whose unwearied industry no professional man can refuse a just tribute, I quote a case related by Mr. Stanley.

"Weakness of constitution, whether connected with rickets or not, is, in most cases, the source to which we look for explanation of distortion of the spine. Such an exception to the general rule did occur in the following case. In a female, sixteen years of age, of feeble health and slim person, a single lateral curve of considerable depth, with its convexity to the right, and including the whole length of the spine, had formed in the course of a few weeks. That the yielding of the spine was owing to the weakness of the structures, which should firmly bind together its component pieces, was evident by the effect of such moderate extension of the column as could be made by gently elevating the head and shoulders, for then the curvature wholly disappeared. An apparatus was applied for the object of keeping the vertebrae in their proper place; and when this had been continuously worn for nine months, it was removed without the recurrence of the distortion; and, besides, it was ascertained that the stature of the body now exceeded by two inches that which it was ascertained to be at the time of the first application of the apparatus." (Stanley, *On Diseases of the Bones*, p. 221.)

This case forms no exception to the general rule. It is an illustration, confirmed by high surgical authority, of the value of instrumental support and mechanical treatment in deformities of the spine. Can we, I ask, ignore such evidence, in justice to the profession we are called upon to practise?

[To be continued.]

ON SECONDARY AFFECTIONS OF THE JOINTS IN PUERPERAL WOMEN.

By WILLIAM COULSON, Esq., Surgeon to, and Lecturer on Surgery at, St. Mary's Hospital; and Consulting Surgeon to the City of London Lying-in Hospital.

PUERPERAL women are occasionally attacked by a severe form of disease attended by low fever, with effusion of pus into the joints, and almost always terminating in death. Various opinions are entertained respecting the nature and causes of this disease. My object in the following remarks is to show that it is connected with pyæmia.

The local affection occurs under two circumstances; viz., after delivery, at the full period of gestation; or after abortion in the earlier months. It is important to include the latter kind of cases, which have not been sufficiently noticed, as they throw great light on the true nature of the disease, and dispose of the theory which would attribute the secondary affections to child-bed fever. The articular disease, as I shall presently show, is merely one of the effects of pyæmia; but it receives certain modifications from the puerperal condition with which it is associated. Even in puerperal women these secondary joint affections may occur under several states which may be distinguished from each other. They are most commonly developed during the course of puerperal fever, from the third to the sixth day of the complaint. In other cases, they occur after convalescence from an attack of puerperal fever. Lastly, in some other cases they set in after parturition, without the patient having presented any symptoms of puerperal fever.

Although the articular affections are essentially the same under these different circumstances, it is useful to distinguish these circumstances, as they modify the general conditions which precede or accompany the local disease. Thus, when the symptoms of purulent infection of the blood are mixed up with those of true puerperal fever, we have a complex malady

which has puzzled some of our best accoucheurs, and which, indeed, it would be impossible to understand, if the same affection did not sometimes occur in puerperal women without puerperal fever.

When the articular affection occurs during the course of puerperal fever, the following train of events is generally observed. For the first three or four days, the ordinary signs of puerperal fever are alone recognised; then some symptoms of phlebitis may present themselves; or these symptoms may be so slight as to be overlooked. They are soon followed by a change in the condition of the patient. Severe rigors often usher in this change; the fever increases; the countenance is anxious and sallow; the respiration becomes hurried; there is irregular delirium; and the patient sinks.

In these cases, there are two dangerous maladies; viz., puerperal fever and purulent infection, running their course at the same time; and it is not to be wondered at, if the general condition of the patient presents an anomalous appearance, or if it be rendered obscure by the predominance of one set of symptoms over the other.

In another set of cases, this obscurity does not exist. The patient has completely recovered from an attack of puerperal fever, or has not had any attack of that complaint; all the dangers of the puerperal state having apparently passed over. She goes on well for the first week or two; there is no fever; no abdominal pain; no apparent danger of any kind. Suddenly, a severe rigor sets in; this is followed by febrile symptoms, small quick pulse, etc.; or the attack may commence with local symptoms, the general disturbance being scarcely perceptible. These latter cases are very remarkable, and not long ago were mistaken for rheumatism.

The disease, with its local effects and constitutional symptoms, may occur after abortion in the early months. Here there are no symptoms of puerperal fever, properly so called; but there may be some slight symptoms of uterine phlebitis. These are often chronic and obscure cases; yet they proceed and terminate like the former series.

The secondary joint-affections are the same under all these different circumstances. They may be either purulent or non-purulent; articular or periarticular; acute or chronic. These different conditions are found to exist in various cases; but the most common form of attack is acute, of a purulent nature, and occupies the interior of the joint. At other times, though extremely acute, the attack is non-purulent, and confined to the exterior of the joint; while, in several cases, there is pus in the cavity of the joint, without any lesion of the articular tissues.

It is also worthy of remark, that in several cases some of the joints are attacked by purulent inflammation, while other joints in the same subject suffer from simple inflammation with effusion of serum.

The period at which the articular affection sets in is various. In a few cases, it has commenced on the second day after delivery; in many other cases, it does not appear until a few days before death, viz., from the twenty-third to the twenty-fifth day. Generally, however, the joints are attacked between the third and fourteenth days. The knee-joint is most frequently the seat of disease. I have found that it is attacked in one-third of the cases in which the joints have suffered; next comes the wrist-joint; then the ankle, the shoulder, elbow, hip; and, lastly, the smaller joints. In a few cases, the purulent effusion has been confined to the symphysis pubis; but I am inclined to think, from the history of these rare cases, that the suppuration of the pubic joint was primary, not secondary—the inflammatory action having extended from the cellular tissue of the pelvis.

The duration of the joint-disease necessarily depends on the duration of the primary affection with which it is connected as an effect. It is not often prolonged beyond a week, but it may last from one to three weeks. In chronic cases the duration may extend to three months. I have published a remarkable case, where death took place on the sixty-fifth day after delivery, and on the fifty-fifth after the attack. Mr. Arnott also mentions a case, which was prolonged for forty-four days; but no *post-mortem* appearances are given.

The local articular symptoms, and the changes discovered after death, present several varieties. In some cases there are no local signs of articular disease; even pain about the joint is absent. After death the cavity contains some pus; the articular tissues are quite healthy. These are exceptional cases. It is very rare not to find some one joint visibly affected, although the rest may have been the seat of passive suppuration.