

and gone just as they did before marriage. In a few the attacks have been slightly aggravated. We require a large number of authentic cases carefully investigated before we can express a definite opinion upon this particular point. At present it is wiser for us to withhold our opinion, for if the laity are encouraged to believe that pregnancy exercises an influence for good upon epilepsy, women who are the subjects of the malady may be induced to marry, and we can scarcely regard this as in all cases desirable, or that the procreation of children under such circumstances is unattended by risks.

Newcastle-on-Tyne.

## ON SYPHILITIC AFFECTIONS OF THE SPINAL CORD.

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It is reasonable to suppose that syphilis may affect the spinal cord as readily and in as many different ways as it does the brain. *A priori* there is no inherent improbability in this being the case, and in cases of spinal cord disease in which the cause is obscure it is necessary to bear in mind the many modes of action of syphilis on the central nervous system. A group of cases which have lately been under my care at the Bristol Hospital have impressed upon my mind the importance of syphilis as a cause of disease of the spinal cord, and have made me ponder whether the frequency of syphilis as a cause of some diseases of the cord is not under-estimated. Speaking generally, syphilis, when it attacks the central nervous system, seems to affect the brain rather than the cord, or perhaps it would be more correct to say that the direct effects of syphilis on the nervous system are most strikingly exhibited in affections of the brain. On account of the seat of the disease syphilitic affections of the brain are often fatal, their consequences can be followed up at the necropsy, and the connexion between morbid process and symptoms distinctly traced. On the other hand, death does not often occur as a direct result of syphilitic disease of the cord, and when the fatal termination does occur, after a longer or shorter interval of time, the immediate interest of the question of the causal action of syphilis has passed away, and the importance of the point is apt to be forgotten, or the patients drift away from the hospital and a post-mortem examination is not obtained, or in the course of the disease such extensive secondary changes have taken place as to mask the original cause of the malady. Thus the evidence of the syphilitic origin of diseases of the spinal cord, being founded more frequently on clinical than on pathological data, is not, except in the case of the occurrence of typical syphilitic gummata, so clear and decisive as it is in cases of cerebral syphilis. It is hardly necessary to say that a person suffering from syphilis or its consequences may present symptoms of spinal cord disease of independent origin, and, further, that when cure occurs in diseases of the cord as the result of treatment by anti-syphilitic remedies, it is not a proof that such disease is syphilitic, for both mercury and iodide of potassium have some effect in other disorders of the nervous system by aiding in the absorption of inflammatory products. An aid in the diagnosis of syphilis as the cause of an affection of the spinal cord is afforded by the presence of collateral syphilitic lesions in other parts of the body, and the probability is greatest when the other part attacked is the brain, indicating that in the case in question the syphilitic poison has already shown a tendency to invade the nervous system. If, however, it can be shown that a particular disease of the cord only occurs in the subjects of syphilis, or, at any rate, that an overwhelming majority of the sufferers from the disease have also had syphilis, in such a case, although the connexion between syphilis and the malady in question may be a remote and not a direct one, the evidence that the latter is the result of the former is very strong. This method of proof by exclusion has now been accomplished for tabes dorsalis, which may probably be regarded as due to degeneration in the nervous tissues arising from a modification of the metabolic processes of the body from the effect of the previous action of the syphilitic poison. As Dr. Gowers expresses it: "The degenerative changes in the nervous system

differ from the lesions of active syphilis both in character and time in such a way as to make the assumption reasonable that they depend upon some product of the growth of syphilitic organisms, a product which may possibly be a chemical substance—a suggestion first made by Strümpell, and widely held regarding other analogous maladies." Whatever view may be held as to the exact action of syphilis in producing tabes dorsalis, the causal connexion between them must now be considered proved, and must considerably extend the conception of the part played by syphilis as a cause of nervous disease; for there is nothing, so far as is known, in the constitution of the posterior root zones and posterior columns which should render them exclusively liable to suffer from the remote action of the syphilitic poison, and it is possible that other of the so-called primary degenerations of other tracts in the cord may be found to be caused by syphilis. Primary spastic paraplegia and combined system degenerations (ataxic paraplegia) are such diseases of degeneration of particular tracts in the cord; but for these two maladies the evidence of syphilitic origin is not to hand. In the eight cases of these affections that I have seen four patients had had syphilis, three had not suffered from it, and in the other case it was doubtful. Again, it is well known that syphilis may excite inflammatory processes which are indistinguishable from inflammations due to other causes, and, further, the originally syphilitic nature of the process may be entirely unrecognisable amongst the more conspicuous secondary changes produced. Take as an instance the results of the occlusion of an artery which is the seat of syphilitic endarteritis. The effect of such an occlusion in the central nervous system is to cause a destructive necrosis of the area supplied by the vessel, and these changes may effectually mask the cause of the softening so that this may be regarded as the primary instead of the secondary process. Moreover, such a lesion could not be distinguished macroscopically from the results of the occlusion of the vessel from any other cause, and only the presence of other undoubted syphilitic lesions or the microscopical examination of the tissues would lead to the discovery of the true nature of the mischief. The difficulty of diagnosis is not always over even when the case comes to the post-mortem table. Clinically such a case could be recognised as syphilitic if it was ascertained that a certain group of symptoms, though also occurring in non-syphilitic patients, was found with especial frequency in the syphilitic, and in the latter was speedily and repeatedly relieved by anti-syphilitic remedies. Some effects of syphilis on the cord are certain: these are the formation of gummata in the membranes or the cord itself; pachymeningitis hypertrophica, with its almost invariable seat in the lower cervical region; tabes dorsalis as a remote effect of syphilis stands on somewhat different grounds. Occasionally the syphilitic process is confined to one particular set of fibres or group of cells having a special function, and symptoms are produced such as those of acute locomotor ataxy if the posterior columns, or of rapidly progressing muscular atrophy if the anterior cornua are involved. Thus in one case under my care there were the symptoms of progressive muscular atrophy of the common type.<sup>1</sup> The patient was a man aged thirty; the muscles affected with atrophy were those of the right thenar eminence, of the small muscles of this hand, and the abductor indicis. There were no sensory symptoms, the disease was progressive, and the abductor indicis of the left hand was also beginning to be affected. He recovered under anti-syphilitic treatment. A year afterwards he came back with a recurrence of the muscular atrophy in the same muscles of the right hand. He came for treatment earlier than before, and the atrophy had not advanced so far. He again rapidly recovered under the influence of iodide of potassium and mercury, and I then made him go through a prolonged course of treatment by these drugs, and, so far as I know, he has remained well ever since.

Besides the above well-recognised types of syphilitic disease of the cord there is a large group of cases of meningitis, myelitis, or meningo-myelitis, in which the agency of syphilis is probable, but not so distinctly proved. Syphilis is well known to cause meningitis, but the part played by it in the production of myelitis requires further consideration. In the first place, and probably by far most frequently, myelitis of specific origin is caused by extension from meningitis. There is first a meningeal inflammation of the ordinary syphilitic character, and the cord itself is subsequently

<sup>1</sup> Bristol Medico-Chirurgical Journal, September, 1888.

affected partly by pressure and partly involved in a syphilitic infiltration. Secondly, syphilis is often the cause, perhaps the most frequent cause, apart from injury, of a focal transverse myelitis extending completely through the whole thickness of the cord for a short distance. Thirdly, it has been shown that syphilitic endarteritis occurs in the cord and its membranes, and in the former such an arteritis would cause softening in the area supplied by the vessel. The present knowledge of myelitis is unsatisfactory. Apart from injury its causes are obscure, and those generally assigned, such as exposure to cold, over-exertion, and sexual excesses, are, to say the least, doubtful. The actual mechanism by which such causes could produce a lesion like myelitis is very obscure. Is myelitis to be considered as a true inflammation, or is it a softening or necrosis of the tissues brought about by vascular occlusion, and are the inflammatory changes found in the affected parts merely a secondary result of this? If the latter is the case, must the occlusion of the vessel be complete, or is extreme narrowing of the arteries from vaso-motor spasm of a certain duration sufficient to excite changes in the direction of softening in the area supplied by them? These questions are at present unsolved, but if myelitis is due to vascular occlusion then the endarteritis of syphilis supplies a cause for it. Apart from actual occlusion of vessels necrosis is known to take place in other tissues as a consequence of the action of an intensely irritant poison. The myelitis of the specific fevers might be explained in this way, and this explanation would hold good for a syphilitic virus of unusual intensity. That myelitis often occurs in persons who have had syphilis is known, and, referring to my notes of cases, I find that, of five men suffering from meningo-myelitis, all were syphilitics; of eight cases of ordinary myelitis in men five certainly and one probably had had syphilis; of three women not one had had syphilis; and one man with transverse focal myelitis was syphilitic; or of seventeen cases ten had had syphilis. I did not know until I looked up my notes that the proportion of patients with syphilis was so high. The inquiries as to syphilis were made in all the cases as a matter of routine in investigating diseases of the cord, and not with regard to any opinion, negative or positive, as to a connexion between syphilis and myelitis. Of course I do not lay any undue stress upon the actual figures in such a small number of cases. Syphilitic endarteritis may presumably account for some of the cases of myelitis of sudden onset, and for those in which an acute and not a chronic (progressive) onset ushers in symptoms which indicate that the lesion is limited to one side of the cord and in vertical extent to one or two segments. Thus the group of symptoms first produced experimentally by the late Professor Brown-Séquard, which consists of motor paralysis with some hyperæsthesia over the trunk and limb on the same side of the body below the lesion, together with defect of sensation without motor paralysis on the opposite side, is occasionally met with clinically, and when not the result of injury is, as a rule, due to syphilis. In specific diseases of the cord the inflammatory disturbances at first excited cause symptoms of wide distribution, which afterwards subside and leave those which are to persist as the result of the original lesion. In such cases of meningo-myelitis it would be useful if it could be proved that there is a grouping of symptoms which indicate that a given case is one of specific disease of the cord. It has been remarked by Jürgens<sup>2</sup> that in syphilis of the central nervous system the symptoms often follow a descending course—that is to say, that the first signs are those of cerebral meningitis, e.g., paralysis of cranial nerves and headache, followed by those of meningitis of the upper and subsequently of the lower parts of the cord, and this meningitis again by those of myelitis, of extension of the disease to the cord itself. Symptoms at first of widely distributed mischief, afterwards reduced to the more localised persistent affection. Since meningitis is so frequently the precursor of myelitis, and in meningo-myelitis the lateral columns are first attacked, the frequent occurrence of the signs of degeneration of these columns—i.e., exaggeration of deep reflexes, clonus, and spastic rigidity of muscles—is to be anticipated, and, as a matter of fact, is very common in these particular syphilitic affections of the cord. There is also a class of cases of meningitis in which the pains arising from pressure make the disease resemble paraplegia dolorosa. Professor Erb has lately formulated a group of symptoms

which he considers to be pathognomonic of syphilitic spinal cord disease. These are: (1) the usual symptoms of spastic paraplegia, with its peculiar gait, carriage, and movements; (2) great exaggeration of the reflexes, predominating out of proportion to the muscular contracture present; (3) bladder troubles; (4) slight, but distinct sensory disturbances; (5) gradual onset; (6) tendency to improvement. The above summary of Erb's views is taken from a paper by Dr. Sachs,<sup>3</sup> who adds these further characterisations: (1) distribution of the disease over the greater portion of the cord, cervical, lower dorsal, and lumbar portions; (2) the relatively slight intensity of the morbid process compared with the extent of area involved; (3) rapid dwindling of some of the symptoms and chronic persistence of others; (4) frequent history of other symptoms pointing to specific disease in the same or other parts of the central nervous system. These forms of syphilitic disease of the cord are generally preceded by a premonitory period<sup>4</sup> in which sensory troubles predominate. Spinal pains more or less radiating in character, at first vague then localised in one spot, various paræsthesiæ in the limbs, localised headache with nocturnal exacerbations, and paralysis of cranial nerves are the chief symptoms. The length of time that elapses between syphilitic infection and the onset of the spinal symptoms is variable, varying from some months to several years. The prognosis is fairly good as to a considerable degree of recovery if treatment is begun early, but I have only seen one case in which the recovery was anything like complete. If necrosis or complete degeneration of the nerve elements has followed the total occlusion of a vessel, or the pressure of gummata or meningeal exudations, there is no means of recovery, but it is reasonable to suppose that definite symptoms arise long before the nervous tissues are completely destroyed and when they are capable of repair if the prime cause of the mischief can be removed. Fortunately if the nature of the case is recognised sufficiently early the latter condition obtains, and hence the large measure of recovery; but if the disease has lasted some time, then, although a part of it may be removed, much must be irremediable, and the patients remain considerably disabled.

The following cases of myelitis and meningo-myelitis were, so far as could be ascertained, of syphilitic origin and illustrate the symptoms and course of this affection when due to syphilis as given above:—

CASE 1. *Meningo-myelitis (dorsal region); Brown-Séquard's syndrome.*—The patient was a single man thirty years of age who had been infected with syphilis for ten years. There was no other case of paralysis in his family. The illness began at Christmas with violent headaches, worse at night, and pains in the calf of the right leg like a sprain. Shortly afterwards he lost power, first in the right leg and then in the left, and took to bed; after three or four weeks there was some improvement, but he soon relapsed. He had been in bed with absolute paraplegia for three months; in addition there had been various paræsthesiæ and some anæsthesia in the legs, and excruciating pains between the shoulders passing up to the occiput. There had been incontinence of urine during the last two weeks before he was admitted to hospital; a sacral bed sore had troubled him for ten weeks. On admission to hospital on Aug. 19th this sore had just healed. There was almost complete paraplegia, the patient just being able to move the left toes. The arms were unaffected. Any movement caused pain in the back. A zone of hyperæsthesia passed round the body at the level of the fourth to the eighth ribs; below this on the trunk there was some hyperæsthesia on the right and anæsthesia on the left side; except over the front of the leg the skin of the right lower extremity was hyperæsthetic; the left lower extremity showed everywhere diminished or absent sensation (touch, pain, and temperature). As he lay in bed the right leg was flexed at the knee, the left extended. Abdominal and cremasteric reflexes absent. There was no rigidity; complete loss of muscular sense in both legs; right knee-clonus; no ankle-clonus. He was obliged to pass water immediately he felt the desire to do so, or the bladder emptied itself involuntarily. Any irritation of the skin caused him to pass urine. There was no tenderness over the spinal column, which appeared normal. The abdominal muscles were unaffected. Electrical reactions showed no marked change either for

<sup>2</sup> Ueber Syph. des Rückenmarks und s. Häute. Charité Annalen, 1885, p. 729.

<sup>3</sup> Journal of Nervous and Mental Diseases, May, 1893.

<sup>4</sup> H. Lamy: De la Méningo-myélite Syphilitique. Nouvelle Iconog. de la Salpêtrière, No. 4, 1893.

nerves or muscles. Under strict anti-syphilitic treatment and, later, electrical treatment and massage he made steady improvement, and he can now stand and walk with the aid of a stick and has fair power over his bladder, though he occasionally wets the bed at night. The left leg has recovered far better than the right; the muscles of the latter are now stiff and rigid, showing well-marked "clasp-knife rigidity," and there are ankle- and knee-clonus. There is no rigidity of muscles in the left leg and no clonus; the knee-jerk is brisk. There is still deficient sensation in the left foot and leg and slight hyperæsthesia in the right.

CASE 2. *Syphilitic meningo-myelitis*.—The patient was a man twenty years of age. There was no other case of paralysis in his family. The patient had contracted a sore on the penis, which eight weeks before admission was followed by sore-throat and an abscess in the groin. On Aug. 11th he felt slight weakness of the legs, and on the next day was attacked with sudden pains in the loins and knees, the latter giving way under him; the pain was followed by numbness and tingling. He was just able to crawl up to bed and remained there until he was admitted into the hospital on Aug. 14th, 1893. There was no affection of micturition. On admission to hospital there was almost complete paraplegia, the patient being only able to raise the feet about an inch off the bed. There was considerable loss of sensation over the legs and trunk, greater to touch than to pain (pin-prick), below a line at the level of the ensiform cartilage in front, and chiefly below the level of the tenth, eleventh, and twelfth dorsal spines behind. Above this level sensation was deficient over the back to the level of the second dorsal spine. Sensation was unimpaired over the back of the left thigh. Plantar and cremasteric reflexes were absent; the abdominal reflex was active; the knee-jerks were normal; there was no ankle-clonus. There was no affection of the bladder or rectum. The cranial nerves were unaffected. The pupils were equal, but the left reacted slowly to light. The special senses were normal. The spinal column was normal. There was a small bed sore behind the left trochanter, and some enlarged and very hard glands in the left groin. The muscles were flaccid, but there was some spasm of the long extensor of the left great toe. There was slight loss of irritability to the faradaic and increased irritability to the constant current in the leg muscles generally. Under anti-syphilitic treatment only he rapidly improved. On Sept. 2nd he could stand and with support could manage to walk a few steps, but the legs felt stiff and rigid. The muscular irritability in them was decidedly increased; the knee-jerks were active; there was double ankle-clonus, and the plantar and cremasteric reflexes had returned. Sensory disturbance was still present, but less marked. On Sept. 14th there was further improvement. There was now loss of sensation only in scattered areas over both legs—namely, over the front of the right thigh, the knee, the upper third of leg, and over the popliteal space and heel behind; also over the upper third of the front of the left thigh. He was much stronger and from this time made rapid progress, so that he was soon able to walk moderately well and was discharged. The ankle-clonus had disappeared, and there was no rigidity; the knee-jerks were rather excessive.

CASE 3. *Syphilitic myelitis (diffuse)*.—The patient, a single man fifty-one years of age, contracted syphilis ten years ago, and had been a heavy drinker. There was no history of nervous disease in his family. In 1876 he had typhoid fever, and delirium tremens in 1878. For twelve months he had suffered very much at times from neuralgic headache, generally nocturnal; it had been worse during the last two months. The sight failed gradually in the left eye, and he then suffered from diplopia and complete left ptosis of two weeks' duration. After the ptosis passed off he became and has remained quite blind in the left eye. He remained at work six weeks before he was admitted to hospital, when gradually increasing weakness of the legs came on, with severe cramping pains in the calves and retention of urine. On admission, on Aug. 21st, 1893, he could just stand with support, but could not walk; lying down he could raise the right leg half an inch off the bed, and the left not at all. The abdominal and plantar reflexes were present, the cremasteric absent. The right knee-jerk was normal, the left was absent. He was unable to pass his urine. The arms were unaffected. There was paralysis of the left external rectus; the associated movement of the eyes in looking to the right was the only movement present in the left eye. The left optic disc was atrophied. The only loss of sensation was a

slight loss to prick and touch over the right thigh and right side of the abdomen. During the following week (on the 28th) the patient became worse and the loss of power in the legs absolute; there was now complete incontinence of urine and fæces. At this date loss of sensation was complete below the nipples, and from a corresponding level on the back over the trunk and lower extremities. The reaction of muscles to the constant current was unaltered; to the faradaic a strong current was required, and this gave rise in the left anterior tibial muscles to a peculiar, long, slow wave of contraction. He suffered from a good deal of twitching of the muscles and from starting of the legs at night. Subsequently the leg muscles became affected with spasmodic rigidity, with a tendency to flexion of the limbs. The left knee-jerk was absent, the right active, and there was no ankle-clonus. Incontinence of urine and fæces continued, and bedsores formed on the right gluteal region and behind the left trochanter. Sensation returned over the left thigh and to some extent over the left side of the trunk, but in other respects the condition remained unaltered, paraplegia being complete. The patient is now quite free from pains in the back and from radiating pains in the limbs.

CASE 4. *Syphilitic meningo-myelitis (meningitis)*.—A seaman thirty-nine years of age, married, had had no illness until 1864, when he had yellow fever. In 1870 he contracted syphilis. He had always indulged most excessively in alcohol and sexual connexion. In 1891 a heavy bag of sand fell upon his back, and he was laid up for a week with loss of power in the legs, from which he recovered completely. In January, 1892, he was admitted into the Bristol General Hospital for pains in the right thigh, due to a gumma situated in its upper and outer part; it disappeared quickly under treatment. In April he was again admitted for pains in the loins and over the lumbar spines, so severe as to prevent him from walking; he had at this time priapism for two days. He insisted on leaving the hospital on May 7th, but soon got worse again and was readmitted on July 28th, when his condition was as follows. He complained of excruciating pains in the lumbar spine and up the back, with pain passing round the abdomen as if he was bound with a rigid bar. The dorsal and lumbar spines were intensely tender. A zone of hyperæsthesia encircled the trunk from the level of the eighth rib above to the umbilicus below, and below this there was anæsthesia. He was able to flex the left knee a little, but otherwise had lost all power in the legs. There was excessive irritability of muscles, and they were affected with spasmodic rigidity. The knee-jerks were exaggerated; there were left knee- and ankle-clonus. The plantar reflexes were active; the abdominal and cremasteric reflexes were absent. The urine was retained and there was obstinate constipation. The arms were unaffected and there was no sign of paralysis of any cranial nerve. The pupils were equal and acted well. During the course of his illness he suffered from intense pains in the back and radiating pains round the trunk, and from painful hyperæsthesia over the buttocks and outer side of the left thigh. There was some tremor of the left arm at one time, which, however, passed off. Retention of fæces gave at first much trouble, but this after the first two weeks was succeeded by incontinence. After three weeks' anti-syphilitic treatment he began to improve and then grew rapidly better; he lost his pains, regained control over micturition and defæcation, and could stand and walk a short distance one month after admission. His gait was at first very ataxic, and the muscular rigidity and exaggeration of reflexes was still marked. He left the hospital on Sept. 19th and then could walk fairly well; there was no ankle- or knee-clonus, but the knee-jerks were exaggerated and the muscles rather rigid. He gave way to excesses on going out and returned about four months later suffering again from pains in the back and symptoms of spastic paraplegia with incontinence of urine. The symptoms were less severe than before and after treatment by iodide of potassium and rest for three weeks he rapidly recovered and left the hospital.

CASE 5. *Hemi-paraplegia in a patient who had had syphilis (? endarteritis)*.—A man forty-four years of age, who had had syphilis, was seized with pains in the back and loss of power in the right leg. The muscles of the right leg and calf were rigid and showed some fibrillar trembling; there was no wasting of individual muscles, but the limb measured one inch less than the left in circumference. There was no loss of sensation. The muscles of the right leg reacted more readily than those of the left to interrupted and constant currents. Ankle- and knee-clonus on the right, none on the

left side; left knee-jerk lively. Plantar and gluteal reflexes were absent on the right side, present on the left. This condition of paresis of the right leg remained permanent; there was no change when he paid me a visit eighteen months afterwards.

CASE 6. *Hemi-paraplegia in a syphilitic patient (Brown-Séquard's syndrome)* — A navvy fifty-nine years of age was filling waggons, when he had to "give up" on account of soreness and pain in the right arm; in the afternoon he lost the use of his right leg, and next day a feeling of numbness, "as if he were frost-bitten," came over his left leg and foot, and left side of the lower half of the trunk. He had been exposed to wet and cold for fourteen days previously. The arm recovered at once, and when I examined him three weeks after the onset the arms and upper part of the body were normal. The organs of the chest and abdomen appeared to be healthy. There was considerable loss of power in the right lower extremity and at the hip- and knee-joints, and in the ankle and toes only an inconsiderable degree of movement was preserved, but he could walk with the aid of crutches. There was no atrophy of muscles; sensation was very acute, he could feel the stroke of a hair everywhere over the whole limb. There was no paralysis in the left leg, but sensation was deficient generally, and almost absent over the calf, the toes, and outer side of the thigh. No loss of muscular sense was made out in either leg. The knee-jerks were both very brisk; plantar and cremasteric reflexes could not be obtained, but abdominal reflexes were present. There was neither ankle-clonus nor muscular rigidity; micturition was unaffected. There was no pain after the onset. Under treatment with iodide of potassium and blistering over the lumbar spine he made a rapid recovery and returned to work in January; the knee-jerk was then decidedly more active on the right side than on the left, and the plantar and cremasteric reflexes were still absent; otherwise he had regained strength and sensation.

With regard to treatment I need only add that the most effectual seemed to be the combination of mercurial inunctions with full doses of iodide of potassium internally, and that, as soon as the acute symptoms have subsided, massage and electrical treatment hasten recovery.

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## DYSTOCIA FROM OCCLUSION OF CERVIX UTERI.

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CASES of dystocia from occlusion of the cervix uteri are, I think, sufficiently rare to warrant me in giving the following particulars of a case recently under my care, and acute lymphatic septicæmia starting with apparently an auto-genetic origin, as in the second case, is also, I think, unusual, more especially as many of the symptoms are not commonly met with in such cases, nor is the ultimate result often as favourable. I hope that the following brief account of them may be of interest to the profession.

CASE 1. — A primipara thirty-two years of age, married two years. With the exception of an illness two months after marriage, which was supposed to have been due to a miscarriage, the patient had enjoyed good health. She then suffered much from persistent pelvic pain, accompanied by free hæmorrhage, lasting on and off for about seven weeks. Previously to this the menstrual flow, though somewhat scanty, had always been natural in colour, quantity, and periodicity. On June 30th last she sent for me, believing herself to be in labour and being very near the end of term. On vaginal examination no sign of opening in the cervical canal could be detected, and all that represented it was a very minute elevation about the size of a mustard seed, through which I found it impossible to get the smallest probe. As the pain she had then was evidently dyspeptic, I gave instructions to the nurse to be sure to let me know when true labour pains set in, as there would be need for surgical interference. On July 3rd at 5 A.M. she did so send, and I then found the head presenting and the os uteri somewhat stretched over it, carrying the elevation referred to high up in front of the head. After waiting three hours until the cervix had thinned considerably

over the presenting part, the patient was deeply anæsthetised by Mr. E. J. Reynolds, and with a tenaculum I hooked down the cervix and, with antiseptic precautions, divided layer upon layer with a pair of blunt-pointed scissors, making the incisions in the transverse diameter of the pelvis, until the membranes were exposed. On account of some rigidity in the surrounding tissue I found it necessary subsequently to make two or three more incisions in other directions and then with considerable difficulty extracted a male living child, presenting in the third position, with long forceps, the child weighing nearly ten pounds. The patient two hours after delivery had severe post-partum hæmorrhage, becoming blanched, with rapid, feeble pulse, sighing respiration, and cold, sweating skin. Ergotine and ether injection subcutaneously, hot bottles to the feet, sinapism to the heart region, clearing out all clot from the uterus, and the hot uterine douche sufficed to remedy what was for some time an alarming complication. The cervix had twenty-five days after labour, though very irregularly notched, become otherwise normal, and the patient, with the exception of two days' high temperature—102° and 103° F.—due to irritable nipples, made an uninterruptedly good recovery. With a personal experience of over 4000 cases, only two with such a complication have come under my notice, the first being in 1878 in Queen Charlotte's Hospital, which was treated in a similar way by Dr. C. Grigg, the physician to in-patients. Though writing from memory, I believe there was a history in that case of previous intra-uterine medication; in my case there had been no such treatment.

CASE 2. — A woman thirty-two years of age, in her fourth pregnancy, sent for me on Nov. 23rd, the messenger stating that the child had been born before he left the house. On my arrival ten minutes afterwards I found the child (a large male), placenta, and membranes lying on the bed. The patient was in a most severe rigor, her teeth chattering, and the whole body violently shaking. After quickly removing the child and clearing away a good quantity of blood-clot, hot bottles were applied to the feet and back, an ounce and a half of brandy with hot water was given, and a hypodermic solution of ergotine administered as the uterus was flabby and large as felt through the abdominal wall. I quite hoped that the rigor might be a neurotic expression of shock, as the patient had been left alone in the house when the messenger started, but after thirty-five minutes, the rigor having quite passed off, I found her temperature raised to 104.2° F., the pulse being 136. She stated, in answer to my inquiry, that she had been quite free from pain until about one hour before the child was born, when she was seized with most intense pain in the sacral region, which continued with a feeling of downward pressure, unlike her previous labours entirely, until the birth of the child. She now still complained of the pain in the sacrum. Rectal examination next day failed to show anything in the bowel lining unnatural. The next day she was vomiting frequently bilious-looking, sour-smelling fluid; pulse rapid and small; face pinched in expression; profuse sweating; intense headache; swollen and tympanitic abdomen; lochia very scant. On the third day the lochia had entirely ceased. There was never any lacteal secretion, and the temperature was 104° in the evening and continued high, varying from 101.6° to 103.8° for the next six days. On the morning of Dec. 1st she became delirious, tried to get out of bed, rambled incoherently in her speech, and objected to being fed, dashing the cup away when the nurse attempted to feed her. Both urine and motion—the latter liquid, light-coloured, and most offensive in character—were voided unconsciously, and this condition lasted for many days. To this fact and the difficulty (though the patient was on a water bed) of keeping her thoroughly dry were chiefly attributable the bed sores which later formed over the sacrum and both ischial tuberosities. On Dec. 6th, at 4 P.M., there was a sudden fall of temperature to 97.8°, the patient being collapsed and her face and hands cold. Two hypodermic injections of ether, 30 minims, at intervals of half an hour, were given, and champagne by the mouth with 30 minims of liquid extract of opium. The evening temperature was 103.6°. She complained of much pain in the right forearm and right leg, both on the outer surfaces. These were tender to touch and were ordered to be wrapped in cotton-wool. Both limbs within the next twenty-four hours became swollen, red, and excessively painful, and on the fifth day fluctuation could be plainly made out; free incisions let out about three ounces of sanious-looking pus. A charcoal poultice was applied, followed by