THE USE OF THE FORCEPS IN THE FIRST STAGE OF LABOUR.*

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"THE first stage of labour must be perfectly finished before we think of applying the forceps." This is Denman's fourth aphorism, and is a rule of practice which has held almost undisputed sway for nearly a hundred years. In the present day, however, the motto of the accoucheur may be said to be "Nullius addictus jurare in verba magistri". No truth is considered to be so firmly established that it is taken for granted and allowed to pass without question. The modern accoucheur does not feel bound to swear by a particular rule of practice because it was that of his "old master" at London, Edinburgh, or Dublin, as the case may be, but reserves his judgment until he has had frequent opportunities of testing it for himself by his own experience. This is the case very much with the use of the forceps. In no branch of obstetrics have we departed so much from the precepts and practice of our forefathers as in this. The forceps is now used with much greater freedom than it was formerly, and, as experience has abundantly proved, with the best effects. For instance, about thirty years ago, according to Dr. Churchill's statistics, the forceps was not used in British practice as often as once in three hundred cases. A reluctance to resort to this instrument was at that time the especial characteristic of the Dublin school. This, no doubt, was greatly due to the precept and example of Dr. Joseph Clarke, who was master of the Rotunda Hospital from 1787 to 1793. According to the first report of that hospital published by him, he used the forceps only once in every seven hundred and twenty-eight cases, and his biographer further states that he only used it "once in the multitude of cases under his care in private". Dr. Collins, who was master of the Rotunda from 1826 to 1833, scarcely employed the forceps with greater frequency; for he records but twenty-four forceps cases in a total of 16,414.

In the present day, on the contrary, the Dublin School of Midwifery is pre-eminent for skill and boldness in employing and developing the great capabilities of this most valuable aid to labour. We find, from Dr. George Johnston's report of the Rotunda Hospital for 1869, 1870, and 1871, that, of 3,338 women delivered in the hospital during that period, 227 were assisted by the forceps, being at the rate of 1 in 14.74. This increased use of the forceps is attended, as Dr. Kidd has pointed out, with a diminished maternal mortality, but more especially with a most important saving of infant life, chiefly because the forceps is now employed in Dublin in difficult cases, which would formerly have been delivered by the perforator.

Within the last five years, however, a still more startling innovation has arisen in obstetric practice; viz., the use of the forceps in the first stage of labour. In his report of the Rotunda Hospital for 1872, Dr. George Johnston remarks: "In thirty-five instances, we were obliged to employ the forceps before the os uteri was fully dilated, twenty-seven being primiparæ and eight multiparæ. In thirty of these, the interference was considered necessary, in consequence of the os uteri continuing undilated, apparently the result of the too early rupture of the membranes and the escape of the liquor amnii."

In his report for 1873, Dr. Johnston again gives thirty-six cases in which the forceps was applied before the os uteri was fully dilated, and remarks: "As there may still be many who will be astonished at this apparently bold mode of practice, and mayhap question its justifiability, I beg leave to assure them that, having adopted it for the last two years, during which time we delivered seventy-one such cases, we are more and more convinced every day of its great advantage in saving the lives both of mother and child." He then gives an analysis of the above thirty-six cases, and calculates the amount of expansion of the os uteri in each at the time of the operation, four inches being assumed to be the utmost dilatation of the os uteri, and this diameter of four inches is divided into five parts. "In eleven instances, the forceps was applied when the os was but two-fifths dilated, when, in fact, we were obliged to expand it with our fingers before we could pass the blades, and in every instance both mother and child were saved, with one exception, a case of convulsions, which was brought in comatose. In twenty-two instances, where the os was three-fifths dilated, all the mothers recovered but one, and all the children but two, which were cases of prolapsed funis. In three instances where the os was four-fifths dilated, the mothers recovered and children lived. The position of the head, with regard to the pelvis, at the time when the forceps was employed:—In two cases, the head was above the brim; in fourteen, in the brim, and in twenty it was in the cavity.

* Read before the Bath and Bristol Branch.

Result: All the mothers recovered but two, one of which, a primipara, who was very delicate and anæmic on admission, died of peritonitis, with uterine diphtheritis; the other, also a primipara, was admitted comatose and in convulsions."

Before a mode of practice so contrary to all precedent can be regarded with favour by obstetric practitioners, it is necessary that the experience of a great number of observers should be recorded. As a report even of a limited number of cases in private practice is of use in this respect, I propose to give my own experience of it, first premising that I adopted this novel method of using the forceps with my mind strongly prejudiced against it as a piece of "meddlesome midwifery" of the most dangerous description. The following cases will show whether my prejudice was well founded.

1. About 1 A.M. on July 16th, 1875, I received a message from Mr. James, requesting me to see Mrs. S., Windsor Terrace, Woolcott Park, whom he was attending in her first confinement. The pains first commenced at 9 A.M. on July 14th, and, when I saw her, the os uteri was only dilated to the size of about three inches in diameter. The pains had gone on continuously and she was feeling exhausted. We, therefore, determined to apply the long forceps. The presentation was natural, the head tolerably low in the pelvic cavity, and I could just reach the ear behind the right pubis. I used Simpson's long forceps. There was not much difficulty in applying it, and in less than an hour I delivered her of a male child alive and tolerably vigorous. The os uteri and the perinæum presented very little obstacle to the passage of the head. She did well.

2. On July 21st, 1875, I attended Mrs. T., Miles Road, in her third confinement. The labour began at 4 A.M. on July 31st. The first stage was tedious, and, for four hours after the membranes were ruptured, the head remained high up in the pelvis and the os was scarcely dilated to three inches in diameter. As no progress appeared to be made, I applied the long forceps, and, after some difficulty, delivered her of a very large male child, alive and vigorous. The os was dilated to about three inches in diameter when the forceps was applied, but it did not present any difficulty, as it was soft and dilatable. She recovered well.

3. On June 28th, 1876, I attended Mrs. C., Clifton Park Road, in her first confinement. Labour began at 4 A.M. on the day previously, but the os uteri was very rigid, and, though there had been regular pains throughout the day, it was not dilated larger than a shilling at 10 P.M. I was called up to her at 1.30 A.M. The membranes had just ruptured and the pains were much stronger, but the os was not larger than a half-crown. I then felt the anterior fontanelle towards the right acetabulum, and, by pressure on the right parietal eminence, succeeded in bringing the occiput round to the left acetabulum. The os uteri still continued very rigid, and by 7 A.M. was not larger than a crown-piece. I therefore used Dr. Barnes's long forceps, and, after some time and trouble, delivered her of a large male infant, alive and well, about 8.45 A.M. The pelvis was not very roomy. Some *post partum* hæmorrhage followed. It was restrained by cold, pressure, and ergot. The perinæum, notwithstanding careful support, was lacerated nearly to the sphincter. I therefore used three wire sutures. The tear healed by the first intention, and the patient made a good recovery.

4. On September 3rd, 1876, I attended Mrs. S., in Caledonia Place, in her first confinement. She was a blonde, tall, robust in make, and about 36 years of age. Labour commenced five days previously, and the pains of the first stage continued at intervals all that time. The os uteri was rigid and yielded very slowly. About 5 P.M. on September 2nd, it was dilated to the size of a crown. About 9 P.M., it had dilated to the size of the bottom of a tumbler, or a little over two inches in diameter, and the membranes gave way. The pains were regular, but not very frequent. The os uteri continued in much the same state until the next morning, the head being in the pelvic cavity. I could not reach the ear, but I could feel the great fontanelle opposite the right acetabulum. The os uteri was now about two inches and a half in diameter. As the labour had become very tedious, I applied Dr. Barnes's forceps, and, after about four hours, delivered her of a large male child that had apparently been dead for some hours. I concluded that such was the case, because the liquor amnii was much coloured with meconium, and the skin had peeled from a considerable part of the head. The patient made a good recovery.

The above cases, it will be observed, corroborate the testimony which Dr. Johnston has given in favour of the employment of the forceps, under certain circumstances, during the first stage of labour. In all, the result was good as regards the mothers, and also the children, with the exception of No. 4, in which the child was still-born; but, in this case, the death of the infant appeared to have occurred before the forceps was used. It will be observed also that, in one case (No. 2,

a third confinement), the delay in the labour did not arise from a rigid os, but from a disproportion between the head and the pelvis, causing the head to be arrested at the pelvic brim. The diameter of the os uteri did not exceed three inches, simply because the head did not press down sufficiently upon it after the waters had escaped. This incomplete dilatation of the os uteri in cases of contracted pelvic brim has long been familiar to accoucheurs, and has not been considered to be an obstacle to the performance of craniotomy, or even to the careful employment of the long forceps. It is far different, however, in the other three cases, which were primiparæ, and in which the insufficient dilatation was the result of rigidity. In these, the forceps would have been formerly considered to be quite inadmissible, mainly, no doubt, for two reasons: first, because the dangers and difficulties attending its use are much greater in the first than in the second stage of labour; and, secondly, because, as Dr. Churchill's statistics show, a protracted first stage is not *per se* dangerous either to the mother or the child. He admits, however, that a protracted first stage may, by inducing fatigue and exhaustion, act unfavourably on the second stage. I had once a well marked instance of this kind. The patient, a primipara aged 30, had been in labour five days before the os uteri became dilated to the size of a crown. The anterior lip of the rigid os uteri then gave way, and a considerable rent took place. The second stage went on well for a time, until the pains almost ceased from sheer exhaustion. I then applied the forceps and delivered her, but the prostration which ensued was so great that the patient nearly lost her life. In this case, all the usual remedies for relaxing the os uteri had been tried, but without effect. I have little doubt that, if the forceps had been applied during the first stage, the result would have been much better. One great object in using the forceps is to anticipate evil rather than to remove it when it exists. Before adopting craniotomy, the accoucheur should be satisfied that urgent symptoms exist which render prompt delivery imperative. With the forceps, however, it is far different. It is so safe an instrument in moderately skilful hands, that it ought to be employed before any symptoms of powerless labour set in. No one in the present day would think of endangering a woman's life by waiting, as Denman recommended, until the pains of labour had ceased and the head had been six hours as low as the perineum. It is quite a sufficient justification for using the forceps that the progress of the labour has been arrested for a time, and that the head has ceased to advance. When the forceps is thus employed in good time, the accoucheur can take time about the operation and imitate nature as closely as possible; but, if he wait for symptoms of powerless labour, he will have to deliver in too great a hurry, and when his efforts are not efficiently seconded by the pains. In the first stage of labour, above all, the delivery should be effected slowly and cautiously. Urgent symptoms have not yet set in, and the accoucheur can, therefore, afford to wait. He should only extract during the pains, and should not mind if the operation occupy three or even four hours, as it did in my last case. He will thus give ample time for the soft parts to dilate and avoid the danger of lacerations.

My experience, then, of the application of the forceps during the first stage of labour is, that the operation, when properly performed, is safe and often very useful, although seldom imperatively demanded; moreover, that it requires a considerable amount of that *tactus eruditus* which can only be acquired by practice, and, therefore, it should not be performed by any man until he has used the forceps at least a dozen times during the second stage of labour; and I am induced, on the whole, to agree with Dr. Playfair's conclusion that, "if the os be not fully dilated, but is sufficiently so to admit of the passage of the forceps, the operation, under urgent circumstances, may be quite justifiable, although it must necessarily be a somewhat anxious one".

COMPOUND COMMINUTED FRACTURE OF THE TIBIA CURED, WITHOUT SUPPURATION, WITHOUT REGULAR ANTISEPTIC TREATMENT.

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ON reading an article in the BRITISH MEDICAL JOURNAL of March 24th by Surgeon-Major Sinclair, M.D., entitled "Compound Fracture occurring in India: Closure of Wound with Compound Tincture of Benzoin", I am prompted to forward a brief report of the following case.

On July 9th, 1875, R. I., aged 30, an iron-ore miner, sustained a compound comminuted fracture of the left tibia by some iron-ore falling on his leg. A piece of the tibia about two inches long was broken from about the middle of the bone; the upper end of the fragment being slightly de-

pressed, and its lower end protruding a quarter of an inch through a small circular opening in the skin. There was no laceration, nor disturbance of the relations of the muscles of the leg. The whole leg was more or less bruised from the knee to the ankle. Above and below the wound, there existed an abrasion of the skin three inches and a half long; and a continuous stream of blood, free of all appearance of air-bubbles, issued freely from the orifice of the wound.

No difficulty was experienced in reducing the fractured fragment; and, from the favourable condition of the soft parts, it was easily retained in position. As the wound was small and blood issued freely, and as almost certainly no air had got among the tissues, I aimed at healing the wound by "scabbing", and therefore covered it with a fold or two of dry lint. The foot and leg were then carefully bandaged to an external hollow wooden splint (Cline's), which had been well padded by a layer of cotton and a layer of tenax; the wound remaining exposed, so that the lint could be easily changed, if necessary, without the splint being disturbed. An internal (Cline's) splint, similarly padded, was then applied and bandaged on, and the leg placed on a pillow.

The case went on favourably till the evening of July 13th, four days after the accident, when the patient became restless and slightly delirious, was thirsty, had a hot skin and a quick pulse. I took off the internal splint, and found the leg hot and tender to the touch around the seat of the fracture. I did not remove the lint, which had become saturated with blood and formed a hard crust over the wound, but poured carbolic oil, of strength one of acid in twenty of oil freely on the lint, and applied more lint soaked in the oil over the part. The splint was reapplied, but not quite so firmly as before. The patient had a mixture containing thirty-minim doses of spiritus chloroformi every four hours; and a towel wet with equal parts of vinegar and water was kept constantly applied over the front of the leg outside the bandages, and frequently changed, so that it might always be cool. The patient's bowels were also attended to, and his diet consisted principally of milk. For three or four days and nights, he did not sleep soundly; but, after this, each successive night seemed quieter than its predecessor. On July 21st, I again removed the internal splint, and also removed the whole of the lint from the surface of the wound. Not one drop of pus had formed; but the surface of the skin from three to four inches in extent was red and tender. I then applied an alum lotion of strength twenty grains to the ounce, and so arranged the bandages that the lint could be changed twice daily by the patient without removing the splint.

August 14th. I removed the splints; found the skin sound, the bone well united and straight, but the leg weak. I reapplied the bandages without splints, and allowed the patient to move more about on his crutches.

The patient returned to his work November 6th, seventeen weeks after the accident.

THE TREATMENT OF INTERMITTENT OR FEN FEVER BY SALICINE.

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ON making the acquaintance of Dr. MacLagan at Dundee last spring, and discussing the now recognised curative power of salicin in acute rheumatism, I gave it as my opinion that we have in it a remedy equally energetic in staying or cutting short the paroxysm of ague. I determined that, as soon as cases presented themselves, I would give it a fair trial, acting on Dr. MacLagan's suggestions as to its administration in full doses. And I hope that the following cases will prove that the failure of the old-fashioned decoction of willow-bark, both in the hands of the inhabitants in the marshy districts and of the medical men, was from the want of concentration, or the inability to prescribe a sufficiently large dose of the specific drug.

CASE I.—R. B., aged 32, a native of the Isle of Ely, had been twice under my care, first in November 1875, and, secondly, in March last, for severe attacks of ague. He was treated with quinine, and was three weeks under treatment on each occasion. He said that was a shorter time than usual. On October 2nd, I was sent for to see him at 10 A.M. I found him in bed shaking all over, his teeth chattering, with the painful unhappy expression of countenance one invariably finds in these cases; the skin was moist and clammy; temperature 103 deg.; pulse weak and frequent, 110. He had a hot bottle to his feet, and had taken hot port wine without feeling better. I told him I was going to send him a new remedy, and he was to be