REMARKS

ON THE

EFFECTS OF FORCEPS-DELIVERY ON THE INFANT.*

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THE more frequent use of the forceps in difficult labour is one of the features which especially distinguish the midwifery of the present time from that of the past; and, of late years, there has been a growing accumulation of facts to prove that women in labour are thus saved from a vast amount of suffering, and that their safety is thereby materially increased. I shall not, therefore, add my testimony in support of a truth which is now well established, but shall limit my remarks to the effects of forceps-delivery on the infant—a subject about which there is still much conflicting evidence. In proof of this statement, I may refer to a careful and elaborate paper by Dr. Galabin, which was published in the *Obstetrical Journal* for December 1877, and which treats of “the effects of a frequent and early use of midwifery forceps upon the fetal and maternal mortality”. After bringing forward a mass of statistics which bear upon this point, Dr. Galabin comes to the conclusion that “it has not been shown that the majority, or any considerable proportion, of the still-births which now occur in Britain would be preventable by a more timely resort to forceps”. With this conclusion I entirely agree; and I shall, therefore, give a few statistics from my own practice which have induced me to take this view.

Since I commenced practice in 1842, I have used the forceps in one hundred and sixty-three cases of labour. In ten of these cases, the forceps was employed on account of complications, such as convulsions, hæmorrhage, or prolapse of the cord, which rendered speedy delivery necessary. As these complications are accompanied with special dangers of their own to both mother and child, and as these cases, therefore, have no bearing on the comparative safety to the child of difficult and protracted labour, with or without the forceps, I shall leave them out of the question. After deducting them, there will remain one hundred and fifty-three cases of difficult labour in which the forceps was used, either on account of want of uterine power, or want of room in the pelvis, or, most frequently, both these conditions. Of these, sixty-one were cases attended by myself from the beginning, and ninety-two were cases to which I was called in consultation by other practitioners. In the one hundred and fifty-three cases, three mothers died; all were consultation cases; all died from septicæmia—one of these being distinctly scarlatinal in origin. I will not, however, enter into further particulars about the mothers. As to the infant mortality, I find that there were twenty-three still-births in the one hundred and fifty-three, all being consultation cases except six; so that, in the sixty-one cases originally attended by myself, there was no maternal death, and six still-born children, or a proportion of about one in ten. In all these, death appeared to have been caused by compression of the head. The less favourable result in the consultation cases is, of course, due to the circumstance that most of them were much more difficult cases than those originally attended by myself.

I shall now take the twenty-three still-births, and give *seriatim* the several causes of death (of which I made careful notes), in order that I may show, if possible, what is the amount of risk to the infant from forceps-delivery. I find that, in seventeen out of the twenty-three, death appeared to have been occasioned by pressure of the head, caused either by the maternal efforts or by the forceps, or probably, in most cases, both combined. In thirteen of the seventeen, the child was dead when born. In one of these, the child weighed ten pounds; but ergot may probably have had something to do with its death, for the practitioner in attendance had given a quantity before I arrived. In another, there was a deep indentation on the edge of the orbit, showing that a faulty application of the forceps had a great deal to do with the mischief. In another, the death of the child was no doubt due to instruments as well as ergot; for, when I arrived, I found that two practitioners had given ergot, and had been trying for hours to deliver both with the vectis and the forceps, and had ruptured the perinæum, although the head was

not pressing upon it. In another, the forehead presented to the left acetabulum; when the child was delivered, the upper angle of the occipital bone was pressed in, and the nose squeezed flat, but the forceps did not press on these parts, so that it must have been due to natural pressure against the pelvis, for the head was much rounded. In another, where the forehead presented to the right acetabulum, death was due to pressure from the forceps, the extremity of one blade having deeply indented one frontal bone and denuded it of integuments. In another, one blade of the forceps had made a deep cut in front of the meatus auditorius externus. In the remaining four cases out of the seventeen, the child lived for some time after birth, but ultimately died of the injuries then received. In one of these, the head had become much elongated by pressure before the forceps was applied, and the ends of the forceps had compressed the temples in consequence, with the result that the child died after two hours. In the second case, the child died convulsed on the third day. In this case the forceps did not exert much pressure, and delivery was comparatively easy; but, previously to using the instrument, labour had been very tedious, owing to great rigidity of the os uteri, and the head had become much elongated. A *post mortem* examination of the child showed excessive turgescence of all the cerebral vessels, and some extravasation of blood beneath the dura mater at the left of the great fontanelle. In the third case, the child died convulsed, also on the third day. The labour had been very tedious and difficult and the head had been much altered in shape, and there was a large cephalhæmatoma on the presenting part; but there was not much evidence of pressure from the forceps, and the elongation of the head appeared to have been due to the maternal efforts. In the fourth case, the forceps had indented the head very much over the coronal suture. This child died of pyæmia at the end of a month. The next four still-births, out of the twenty-three, are due to a cause of which I do not remember to have seen any notice by others; I mean compression of the umbilical cord by the forceps. In one of these, the forehead presented to the left acetabulum; there were no particular signs of undue pressure on the head; but I observed, when the child was born, that the end of one blade of the forceps was compressing the cord (which happened to be round the child's neck) against the angle of the jaw. In another, the head had been much elongated by pressure; but I attributed death in this case also to the cord having been nipped between the edge of one blade and the jaw. In another, the same thing had happened; the head being but little altered in shape. In the fourth, the contour of the head was little altered, but a loop of cord, which had prolapsed, though not sufficiently to be previously detected, was found, as soon as the head was delivered, to be between the edge of the posterior blade of the forceps and the left frontal bone. Here, then, we have a source of danger to the child, arising simply from the use of the forceps, and which cannot be guarded against by any ordinary amount of skill. Nothing is more common than coiling of the cord round the child's neck, and it is a condition which cannot be recognised by ordinary vaginal examination before applying the forceps. If, therefore, one blade of the forceps should pass just an inch too far beyond the ear, it would be very likely to cause such an accident, especially if the head be so high that the ear cannot be felt, or present unfavourably, for instance, with the forehead in the anterior semicircle of the pelvis; or the head be much altered in shape, and elongated by protracted labour.

In the last two still-births, out of the twenty-three, the children were putrid; and it would have been better perhaps not to use the forceps at all in these cases, but to deliver by craniotomy, had the diagnosis beforehand been sufficiently clear.

In the one hundred and thirty children that were born alive, there were a few in whom bad consequences, though not of a permanent character, resulted from the use of the forceps. For instance: in two, the pressure of the forceps on one side of the face produced a paralysis of the portio dura, which lasted some days. In one, the child was slightly convulsed for some hours after birth. In another, an abscess formed behind the ear. In another, an abscess formed over one frontal bone, and a piece of bone, about the size of a sixpence, exfoliated. In two others, there were large cephalhæmatomata on the presenting part of the head; but this may have been due quite as much to the previously protracted labour as to the use of the forceps.

On looking over my list of forceps operations, I observe that one hundred and three cases, or rather more than two-thirds, were *primiparæ*. This one would naturally expect, and is in accordance with the experience of every accoucheur. The prevalence of unfavourable presentations of the head is another noteworthy fact. Thus, in the one hundred and fifty-three cases, there are no fewer than fifteen, or nearly 10 per cent., in which the forehead presented to the right acetabulum, and nine, or nearly 6 per cent., in which it presented to the left acetabulum, and there was one presentation of the face; thus showing that

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these abnormal presentations have a great deal to do with the production of difficult labour.

There can be no doubt that tedious and difficult labour is a process more dangerous to the child than to the mother. In an ordinary labour, the fetal head undergoes a certain amount of pressure, which causes a certain amount of alteration of shape or "moulding", as it is called, with impunity; but, if this process be carried beyond a certain point, either as to intensity or duration, it is fraught with the greatest risk to the child.

The important question to be considered is whether the timely use of the forceps saves the child from this dangerous amount of pressure. I do not think that it does; for I believe that it diminishes the duration only by increasing the intensity of the pressure. I stated before that, out of the twenty-three still-born children which I delivered with the forceps, seventeen, or nearly three-quarters, were consultation cases, and, therefore, peculiarly difficult. In most, the head was much elongated from compression in a narrow pelvis, and had lost so much of its usual rotundity that the forceps was peculiarly liable to slip, and, therefore, it was necessary to prevent this by obtaining a firmer grip of the head. It was in this way that most of the injuries to the child's head, which I have described above, were occasioned, and these injuries were, in most instances, a measure of the amount of obstacle which had to be overcome.

In order, if possible, to fairly test the effects of more frequent forceps delivery upon the safety of both mother and child, I have compared the last hundred labours of primiparæ attended by myself before the beginning of the present year with the last hundred similar labours attended before 1868, more than ten years ago. I have taken those cases only in which I was originally engaged to attend the patient from the commencement, and attended her throughout the labour; and I have carefully excluded other practitioners' cases to which I was called in consultation. I have taken only head-presentations, and have excluded all others, because they are attended with special dangers to the child quite independent of the use of the forceps or the duration of labour. For the same reason, I have omitted labours attended with complications, such as hæmorrhage, convulsions, prolapse of the cord, etc. I have also left out premature births. I find that, in the one hundred cases, reckoning back from 1878, I used the forceps thirty times, with the following result. No mother died, but three infants were lost; two of these after using the forceps, and one after a protracted labour without instruments. In the one hundred cases, reckoning back from 1868, I find that I had twelve forceps cases and one of craniotomy. In this last case, which was one of the earliest of the first hundred, I should undoubtedly, at the present time, have used the long forceps with every probability of success; for, at a subsequent labour, the same woman gave birth to a small living child at full term. One mother died from puerperal pneumonia following a most severe and protracted labour, which, in the present day, would have been shortened by the use of the forceps. Four children were lost; viz., one from craniotomy, one after forceps delivery, and two after protracted labour without instruments. If we leave out of the question the craniotomy case, there are in one list two deaths of infants after forceps delivery and one after natural labour, against two after natural labour and one after forceps delivery in the other list. This gives no very decided proof that more frequent use of the forceps adds materially to the safety of the infant.

My own experience, therefore, leads me to coincide with the conclusion of Dr. Galabin, that "it has not been shown that the majority, or any considerable proportion, of the still-births which now occur in Britain would be preventable by a more timely use of the forceps".

In the first thousand labours which I attended, before the forceps was so much used as it is now, I have only recorded four deaths of children from hard labour; whilst there was a mortality of thirty from premature birth, fourteen from malpresentations, such as breech, feet, knees, or arm, three from hydrocephalus, and eight born putrid, being a total of fifty-five cases in which the child's life could not have been saved by a timely recourse to the forceps. I do not speak of those that died from other complications, such as accidental and unavoidable hæmorrhage, convulsions, and prolapse of the cord, because it may possibly be said that some of these might have been saved by the forceps.

In opposition to such a view, however, very frequent reference has been made lately to statistics from various sources; but perhaps none have excited so much attention as those of Dr. Hamilton of Falkirk, who is reported to have had two consecutive series of eight hundred and seven hundred cases without a single still-birth, using the forceps in about one case in five. To have attended one thousand five hundred cases without losing a mother is an amount of success which is extraordinary; but to have attended that number without losing a

child is an amount of success which is still more extraordinary and startling. It requires a rare combination of skill and good fortune to have used the forceps once in every five cases, or three hundred times in one thousand five hundred cases without losing a child, or to have attended that number of cases without being obliged to perform craniotomy once, or (unless such cases are excluded) having any deaths of infants from premature birth, from breech, footling, or arm-presentations, or dangerous complications, such as hæmorrhage, convulsions, hydrocephalus, or, last but not least, prolapse of the cord. Having, in one hundred and fifty-three forceps cases, lost twenty-three children, or nearly one in seven, I can never myself hope to attain to such extraordinary success, although my infant mortality after such operations is better than that which Dr. Churchill, in 1855, gave as the average mortality of British and foreign forceps cases; viz., one in four and one-third. I have pointed out also that, besides the bad consequences which, in some of my cases, arose from compression of the head by the forceps, and which some may be inclined to attribute to the mode of applying the instrument, there is also, in some exceptional cases, a source of danger to the child which it is impossible to foresee: I mean the risk that the umbilical cord may be round the child's neck, and may be compressed by the forceps. The risk to the child from this cause is so small that it need not be considered, if there be any question about the safety of the mother. It ought, however, to deter us from using the forceps simply because a labour has lasted beyond the average time; but it ought not to prevent us from doing so, if the head have actually ceased to advance, or if any unfavourable symptom have set in, in consequence of the length of the labour.

ON THE TREATMENT OF SEVERE VOMITING IN PREGNANCY.*

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YOU are most of you, probably, aware that I have published cases of severe sickness in pregnancy, and advocated a mode of treatment which up to that time had been invariably successful. My subsequent experience has been attended with the same unflinching result; and I have it now in my power to adduce, in favour of it, the concurrent testimony of others who have kindly and voluntarily reported to me the effects produced by the treatment of dilating carefully the os uteri with the finger for the relief of obstinate vomiting during pregnancy. I will now proceed to inform you of additional cases of my own and of others, and am gratified to find that up to the present time no case of failure that I know of has occurred.

CASE I.—On March 2nd, 1876, I was sent for, about 5 A.M., to see Mrs. M. in consultation. The history was that she married in November, and conceived almost immediately, having never menstruated since her marriage. She was about eleven weeks gone; breasts full, large, and tender, with the usual appearances of pregnancy. She suffered very much during nearly the whole time with morning sickness, which for the last week had been more continuous and severe, so as to prevent her from taking food, and accompanied with considerable abdominal or ovarian pain, giving rise to the possibility of commencing peritonitis; but the pulse and temperature were nearly normal. She had suffered much from constipation, and there had been difficulty in getting the bowels to act. She had had enemata and turpentine fomentations with some relief. I found a good deal of uterine tenderness; and there was dulness over the cæcum. She vomited after everything she took; and just before I arrived she had thrown up about three pints of frothy fluid, which relieved her pain. I examined the uterus, and found the os closed, but I thought the fundus of the uterus too much inclined forwards, and endeavoured to rectify it. She took a colocynth and henbane pill, and had warm applications to the abdomen. On seeing her again about noon, I found that the bowels had been well relieved, the pain had abated, and she had had three or four hours' comfortable sleep. The pulse was quiet, but she was unable to take anything without nausea or sickness. We ordered an oxalate of cerium pill, which she had had several times before with partial relief to the vomiting. About 9 P.M., I saw her again, and found she had not been able to take anything without sickness, and had vomited many times since my visit in the middle of the day; but there was much less pain in the body, and not the same forcing feeling as before. She had taken a little lemon-juice and champagne, which she thought had relieved her, but she complained of great exhaustion from the frequent vomiting

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