Practical Observations

ON

'SUPPORTING THE PERINÆUM.'

BY

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The Causes of Laceration of the Perinæum in Labour. The effects produced by "supporting the perinæum" have now been considered and discussed *seriatim*; the mechanism by which the perinæum is lacerated under ordinary circumstances, has also been described at some length. How far the operation falls short of effecting what it has been supposed to effect, how considerably it may interfere with the mechanism of the process of dilatation on which the safety of the perinæum depends, all this I have attempted to show.

Before coming to any conclusion as to what should be the proper management of the perinæum in labour, I propose to examine briefly the question—What are the causes of laceration of the perinæum? The mechanism of distension of the perinæum during the birth of the head having been considered, we are now in a better position for discussing this part of the subject.

I am not aware that any attempt has been made to collect together fairly and dispassionately the facts scattered over obstetric literature, on the subject of perinæal laceration during labour, in such a manner as to obtain anything like conclusive evidence as to the causes of the accident. Indeed, it is questionable whether any results of value could be obtained by any one making the attempt; and for this reason, that the judgment of the individual recording a particular observation is so likely to be warped and distorted by his own preconceived opinions on the matter. Few, comparatively speaking, go out of the beaten track; and when recognised procedures fail in procuring the end desired, it is generally the case that the failure is set down by the practitioner to his own want of skill in applying the remedy, rather than to a want of potency in the remedy itself. Hence the difficulty of arriving at the truth in such a question as the cause of laceration of the perinæum. Added to this, there is this particular difficulty, or disturbing element, that we can hardly say, from experience, what is the percentage of cases in which laceration actually occurs, or would occur, were the perinæum left to take care of itself, the practice of artificially tending it being so universally the one adopted.

The parts concerned, and the respective condition of which it is necessary particularly to investigate in reference to the question, are—

1. The uterus; and the force and frequency of its contractions.
2. The presenting part of the child.
3. The pelvis.
4. The perinæum itself.

The answer to the question, What are the causes of laceration? is, that a faulty condition, absolutely

or relatively, of any one of these, or of two or more associated, is sufficient to produce laceration.

It is impossible to dissociate all these elements in arriving at a real conclusion as to the cause of the laceration in a particular case, as will be at once admitted on looking the facts fairly in the face. Thus, when we are told that "great size of the child's head" was the cause in a particular instance, this may convey but a very small part of the truth. We must be told what was the force and frequency of the pains—what, also, was the condition of the perinæum—before we are able to say that the size of the head was the *real* cause. It is well known that heads of remarkable size do pass through the ostium vaginae without inflicting the smallest injury on the soft parts; the mere fact that the head was large may have had very little to do with the laceration.

It is to be remarked, that the recorders of particular cases of laceration have generally failed to supply us with such full information as would enable us to say whether the cause of laceration, as stated by them, be really the cause or not. The conclusion arrived at by particular observers is, in too many cases, open to this serious objection.

Premising that these sources of fallacy will have to be encountered in any statistical inquiry, let us examine for a moment some of the documentary evidence obtainable, as to the cause of laceration of the perinæum. Take, for instance, the eighty-one cases, most of them of severe laceration, recorded as operated on by Mr. Baker Brown. The information which I have been able to extract from the reports of these eighty-one cases, and bearing on the present inquiry, is as follows:—

The laceration occurred during a first labour in forty-nine cases, and the labour was terminated by instrumental aid in nineteen of these cases.

The laceration occurred in seventeen cases in which the labour was not the first, and in four of these it is stated that recourse was had to instrumental aid.

There are fourteen other cases in which it is not stated whether the accident occurred during a first or during a subsequent labour. In eight of these instruments were used; in six not. Thus, instruments were used in thirty-one cases, and not used in forty-nine.

The proportion of cases in primiparæ to those in multiparæ was about as three to one.

The great preponderance of cases of primiparæ is very striking, and shews us convincingly that laceration is far more likely to occur in first than in subsequent labours.

With reference to this part of the question, it may be here incidentally mentioned that Dr. Snow Beck gives the result of some observations, from which it would appear that laceration to a considerable extent may and does take place in primiparæ very much more frequently than is generally supposed. Thus, in 112 primiparal labours, the perinæum was lacerated "through the whole extent" in seventy-five cases. (*Med. Times and Gazette*, Feb. 23, 1856.) Dr. Beck believes that lacerations to this extent do occur much more frequently than is supposed, but that they are overlooked, and occasion, in most cases, little inconvenience. Before this opinion can be received as universally applicable, a large number of observations made for the special purpose of determining

this point will be necessary. So far, Dr. Beck's observations confirm the general opinion as to the greater frequency of laceration in primiparæ.

To return to Mr. Brown's statistics. The cases in which instruments are stated to have been used, can hardly be analysed with any useful result; for it is very difficult to say whether the laceration and the use of instruments were necessarily and unavoidably, or only accidentally, connected.

The causes of laceration in the thirty cases of primiparæ in which no instruments were used chiefly interest us here. Now, in four of these cases, the laceration was evidently, as it appears to me, connected with great rapidity of labour. In one of these cases, Mr. Brown reports the cause to have been rapid labour; but in the other three, although the labour is stated to have been rapid, the cause is considered to have been the absence of medical assistance. The mere fact that laceration occurred in these cases before medical assistance could be obtained, in itself shews that the labours must have been more rapid than usual. There is, therefore, as much reason—as I believe infinitely more—for supposing the cause to have been rapid labour, as want of assistance. As regards the remainder of the thirty cases, the details given are insufficient for the purpose of arriving at any general conclusion.

Mr. Brown draws the conclusion which his statistics so far bear out, that old primiparæ are more liable to the accident than younger individuals.

Such are the chief deductions obtainable from the cases in question; and it is hardly likely that any better or more conclusive information could be obtained from any statistical data at present available.

Logically, the conclusions we are justified in forming from the facts just quoted are:—

That in a primipara labour is more likely to be attended with laceration; but especially is this the case if the labour happen to be a rapid one.

That, in the hands of many individuals, the use of the forceps is dangerous to the integrity of the perineal structures. It would be unfair, from the mere fact that laceration occurred when the forceps were used, as I would again remark, to conclude that the use of the forceps and the laceration were necessarily connected. The forceps may be used so as to imperil the perineal structures in the very highest degree; but we must be very careful of drawing a conclusion inimical to the use of the instrument in question, simply because, in many cases, laceration of the perineum has appeared to have been caused by its use. This is not the place to enlarge on the proper method of using this invaluable instrument; but I may remark that it is very easy to understand how laceration of the perineum might be caused by the forceps, in the hands of an inexperienced or ignorant operator, and how difficult it must be for one who has not thoroughly studied the mechanism of parturition to be properly imbued with the necessity for exercising his traction in the direction of a curve, the segment of a circle, of which the pubic arch is the centre. It is highly probable that it is not the use, but the misuse, of instruments to which the perineum is indebted for being torn.

These cases of Mr. Brown's were most of them cases of severe laceration.

Statistics failing to give the desired information, let us inquire, in the first place, what are the deductions obtainable from reasoning.

Force of uterine contractions in relation to laceration. All reasoning is in favour of the supposition that the laceration which occurs is, in a large proportion of cases, mainly attributable to unduly forcible uterine contractions. The results of observation are that, if only a sufficient time be allowed, the perineal structures will undergo almost any amount of distension, both in cases where the difficulty is caused by the tightness, resistance, or so-called "rigidity" of the perineum itself, and in those cases where the difficulty is created by undue size of the presenting part of the child.

If the uterine efforts be sufficiently strong to overcome the resistance, the ostium vaginae must increase in size, and the perineum must dilate sufficiently to allow the head to pass, or laceration is the necessary alternative. The resistance of the perineum, and the force of the uterine contractions, are the two opposing forces, and, as a rule, they are so proportioned one to the other, that parturition is effected without injury, certainly without serious injury, to the soft parts. But, if the uterus act with unusual force and rapidity, the head may descend, and, before the perineum has been at all dilated, or has had time to dilate, the head is thrust through, and laceration occurs. For this effect to result, it would seem reasonable to conclude that the pelvis must be capacious, the head moderately large, the perineum firm, or as it is termed, "rigid." It seems quite necessary to admit that mere rapidity of labour, the head in such cases presenting normally, and coming into contact with the perineum in the most advantageous manner, may give rise to laceration.

Some of the older authors, Denman for instance, conceived that the laceration was due in many cases to violent voluntary efforts on the part of the patient during the expulsive stage, the theory of Denman being that the perineum was able to resist the effects of the "instinctive" force produced by the uterine contractions; but that when the woman added to these violent contractions of the voluntary muscles, the effect of the two together was more than the perineum could withstand. Dr. Leishman appears to have adopted this view to a certain extent.

This is only another way of saying that the laceration is liable to occur when the labour is too rapid; the fact being that the perineum is unable to resist the force in question, because it is applied so continuously and persistently as to allow no time for the necessary dilatation.

What is the share which abnormal or unusual conditions of the presenting part of the Fœtus play in the production of perineal laceration? A knowledge of the mechanism of the expulsion of the head will assist us in answering this question. Thus, it being the fact that, normally, distension of the perineum is accomplished gradually, and that each part of the perineum is equally stretched and dilated, it is clear that if the presenting part be *irregular in shape*, or less capable, in fact, than usual of assuming that conical shape so admirably adapted for dilating the vaginal outlet, the perineal structures cannot be equally dilated, and the uterine contractions may expel the fœtus before the structures in question have really undergone proper dilatation. Such a condition of things is met with when the head is very firmly ossified, or when the presentation is in any way abnormal. The reason that an angular or irregular presentation is not more

often attended with laceration probably is that the labour being in such cases more tedious than usual, the perinæum has more time given to it wherein to become dilated.

Further, the association of the two conditions, mal-presentation and unusually forcible or quick contractions of the uterus, must be favourable to the occurrence of perinæal laceration in the very highest degree.

Breech presentations must be regarded as unfavourable to the integrity of the perinæal structures, especially when the delivery is quick, owing either to rapidity of uterine contractions, or what amounts to the same thing, rapid artificial extraction of the child, after turning or otherwise. In Dr. Figg's practice, we have illustrations of the possible injurious tendency of the combination—breech presentation and rapid extraction—to produce laceration. Dr. Figg states (*Med. Times and Gaz.*, Oct. 13, 1860, p. 354) that "in version the exit of the head is too rapid for the production of such injury to any extent"; but in the very same paper he informs us of a fact which is not quite in unison with this opinion—namely, that in two cases very severe laceration of the perinæum occurred in primiparæ in delivery after version.

In the reports of the cases operated on by Mr. Baker Brown, we find some particulars also as to the influence of this mode of delivery in the production of laceration. There are in the whole five instances (three of these primiparæ) in which laceration occurred in cases of pelvic or footling presentation: in two of these, turning had been performed. Numerically, these five cases bear a certain important proportion to the whole number recorded by Mr. Brown.

Conditions of the pelvis leading to laceration. Normally the head is so moved and turned in its course through the pelvis, that it is presented to the perinæal outlet in the manner the most favourable to dilatation of the soft parts; but if there be deformity of the pelvis, or if there be such a want of proportion between the head and the pelvic bones as to interfere with this, the perinæum is not equably dilated, and it may be that without previous warning, so to speak, the perinæum has to deal with one of the long diameters of the head. This state of things may occur from undue ossification of the head, from mere size of the same, from very slight contraction of the pelvis, from exostosis, possibly from an unusually straight condition of the sacrum, etc. Again, the combination of one of these conditions with rapidity of uterine contraction would be more likely to give rise to laceration than when alone: the laceration may be at the last actually due to a very trifling, almost intangible, but additional abnormal element.

The condition of the perinæum itself remains to be considered.

[To be continued.]

MEDICAL RANK IN THE AMERICAN NAVY. General orders have recently been issued to the following effect:—Surgeons of the fleet, and surgeons of more than twelve years, rank with commanders. Surgeons of less than twelve years rank with lieutenants. Passed assistant-surgeons rank next after lieutenants. Assistant-surgeons rank next after masters. Commanders and executive officers, of whatever grade, while on duty, take precedence of surgeons. (*Med. and Surg. Reporter.*)

Illustrations

OF

HOSPITAL PRACTICE:

METROPOLITAN AND PROVINCIAL.

LIVERPOOL NORTHERN HOSPITAL.

CASES OF ACUTE DISEASE OF THE CHEST.

Under the care of A. T. H. WATERS, M.R.C.P.,
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[Reported by F. P. PHELPS, Esq., B.A.Oxon., Junior House-Surgeon.]

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CASE X. *Pneumothorax followed by Effusion: Pericarditis.* Wm. Sutherland, aged 24, seaman, was admitted into the Hospital on September 11th, 1860. He had been ill for six months with cough, expectoration, and night-sweats, but had kept at his work up to three days before admission, when he was suddenly seized with a severe darting pain in the left side. The pain had continued from its first accession, but was gradually becoming less acute. When admitted, he complained of pain in, and inability to lie on, the left side. The skin was cool; the tongue foul; the pulse quick; and respiration hurried. There was deficient movement of the left side of the chest, with tympanitic resonance of the upper part. Below the level of the inferior angle of the scapula there were dulness on percussion and distinct ægophony. No respiratory sounds could be heard over the left lung, except at the apex, where there was crepitation. Vocal fremitus was absent over the left side. Succussion elicited a distinct splashing sound at the back of the chest. The heart-sounds were inaudible at the usual position of the apex, but were faintly heard at the right of the sternum. No impulse could be felt. The right lung was resonant; the respiratory sounds were healthy. He was ordered a blister to the side, port wine, beef-tea, and a cough mixture.

On the 14th, the pulse was 116; respirations 32. He had expectorated a good deal of ropy purulent matter. The physical signs were the same.

On the 17th, the pulse was 100; respirations 26. The heart was felt beating in the fourth right intercostal space. The dulness on the left side was slightly less. He was ordered a grain of calomel and one of opium twice a day, and a blister to the side.

On the 19th, he had a slight feverish attack; and a crop of milary vesicles appeared on the chest. The wine was omitted, and a saline ordered.

On the 24th, he had quite recovered from the feverish attack; there was apparently less fluid in the chest, and the breathing was better. Pulse 104; respirations 24. He was ordered a grain of quinine three times a day, and tincture of iodine was applied to the chest.

On the 27th, the respiratory sound could be faintly heard at the upper part of the lung, both in front and behind. An amphoric breath-sound could be heard behind on deep inspiration. The extent of dulness was diminished. The impulse of the heart was scarcely perceptible in the fourth right intercostal space. He was ordered chop diet, four ounces of wine, and iodine to be applied to the chest again.

On October 1st, he had a slight return of feverish symptoms, which were relieved by a saline.

On October 11th, the physical signs were as follows. Scarcely any movement of the left side of the chest; exaggerated movement on the right side; the heart was seen beating in the third right intercostal space; amphoric breathing heard distinctly at the back of the left lung. His general appearance was improved. He had less pain; and the sputum was diminished in quantity.