THE CONNECTION BETWEEN LACERATION OF THE PERINÆUM AND PROLAPSUS UTERI.

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I may state that I have been led to glance at this question, from hearing the paper bearing on the same subject read by a distinguished Fellow at last meeting of our Society. In that paper it was denied that laceration of the perinæum had anything to do with prolapsus uteri; and altogether this part of the female, in relation to this displacement, was, in my humble estimation, by far too lightly esteemed. I most certainly believe that the perinæum plays a very useful part, though by no means the most important one, in the way of supporting the uterus; and the object of this brief paper will be to point out this essential function.

Let me add preliminarily, that if the able Fellow's view be the correct one; if the perinæum offers no support, even indirectly to the uterus, then I certainly say the sooner it is swept away the better, just like any other nuisance. I say nuisance, because we, as accoucheurs all, know dearly what a trouble it gives us in many instances; how great a resistance it offers to the descent and exit of the child; what valuable time is sacrificed to its obduracy; and if it be so unimportant a part, we may all pray vehemently for its laceration, and when the great boon arrives, refuse, with an obstinacy equal to that of the perinæum itself, to have the rupture stitched. Nay, if nature, full of ingenious devices, should exert her powers in the way of healing the breach, we shall see to it that her unwelcome efforts are thwarted, and that the happy wound is left to gape as widely as possible. I say this in sober earnestness, and not in a joking, or even sarcastic spirit; for if we meet with an impediment (I don't care in what department), that is an impediment and nothing more, the sooner it is brushed aside the better—"Let it perish as a worm upon destruction's path."

But is the perinæum an obstacle and nothing more, an intolerable impediment without compensatory good; the unmitigated patience-slayer of the doctor? No; it cannot be, for in nature

> "Nothing useless is, or low,
> Each thing in its place is best;
> And what seems but idle show,
> Strengthens and supports the rest."

I know it will be said that the denial of the perinæum, as a uterine prop, does not mean the disbelief in its utility. But I maintain that it does; for it cannot support the uplying, superincumbent viscera, or antagonize the diaphragm, without supporting the womb. If you affirm that it does not support the uterus, then you are tied up to the negation of its function as a counterpoise to the diaphragm; in other words, you reduce it to the low position of a useless appendage; indeed a piece of mere and pure trapping.

But now we must proceed to evidence, to show that the perinæum in its normal state does aid in supporting the uterus; and when lacerated, favours the descent of that organ.

Function of the Perinæum.—The question as to the connection between lacerated perinæum and prolapsus uteri (or procidentia, for they differ only in degree), derives light from a consideration of the function of the former; what is that function? The perinæum, according to all authors, has a twofold office to fulfil—1. It has to dilate during parturition, as we all know practically, and independently of a knowledge of its elastic structure. 2. It antagonizes the diaphragm, and supports the superincumbent viscera of the pelvis and abdomen. It is with this latter function that we have mainly to do in connection with the subject under consideration. The perinæum then supports the pelvic viscera, one of which is the uterus. True, it does not touch the latter, being some inches away from it, and stress was laid by some on this circumstance; but if it is to be argued that it

cannot support the uterus, because it is some distance from it, then we may also argue that the copestone or apex of a spire is not supported by the foundation, because it is removed a very great way from the base of the edifice. The key-stone of an arch is also a good distance removed from the foundation, but how long would the bridge remain aloft were this latter cut away? The uterus we maintain then is supported by the perinæum as a part of the mass of elastic viscera lying above and between it and the diaphragm. The whole abdominal and pelvic cavity is a closed box, containing organs of a somewhat soft consistence, and elastic and distensible qualities. These organs are bound together by various ligaments and other connections, but not in such a way as to render them independent of their encircling walls. From these walls they derive support, and if any part is destroyed, or even weakened considerably, a protrusion of some part takes place. We see this illustrated in the different forms of hernia, and in wounds of the abdominal wall. Moreover, if the opening be situated in the lower part of the cavity, this protrusion is all the more likely to occur, and to a larger extent, because the contained viscera are subjected to a deal of vertical pressure, and which is all the more concentrated as we approach the lower part of the cavity. This perpendicular force consists of the action of the diaphragm, and the numerous muscular efforts called into play in walking, in lifting heavy burdens, in coughing, in ordinary, and more so in strained defæcation, and in ordinary and forced micturition. The voluntary and involuntary forces exerted during successive labours, also form part of this vertical force. So long as the antagonist of this diaphragmatic, and other force, remains whole, and of normal strength, it offers a powerful resistance to it; but when it is weakened by morbid causes, or by labour, and much more so when it is ruptured,—when it has the line of insertion of its different muscles torn through,—its antagonising power is diminished or destroyed. If the laceration

is slight, little evil may result; if extensive, say everything involved but sphincter ani, much evil may accrue. If this muscle is also severed, the resulting mischief will be greater still. Prolapse of the contiguous viscera—the rectum, the uterus, and the bladder—follows, with all their attendant distress. These results are not fanciful, but are testified to by the gynækologists with a unanimity that compels our respect, if it does not secure our ready and willing assent.

Bearing of Ruptured Perinæum on Vagina.—But the perinæum supports the uterus in a more direct manner than it does as an antagonist of the diaphragm; that is, through its intimate connection with the vagina. The uterus, of all the internal organs, is characterised by a remarkable mobility ("Es ist ein sehr bewegliches Organ, er streift umher wie eine Zigeunerin," as I have heard a German say), and may be made to alter its place in all directions until its supports are put upon the stretch, as we may see by making traction on it. Well, the vagina is one of these supports; the uterus rests on it as on a firm though elastic pedestal, and receives from it no little support indeed. The vagina, in turn, is supported by the perinæum, and if its fascia and muscles are torn through, the posterior vaginal wall is undermined. One can only deny the support rendered to the uterus by the perinæum, owing to its connection with the vagina, either in the first place by denying that it supports the vagina; or, secondly, by denying that the vagina sustains and props the womb. No one will deny the former—that is, that the perinæum supports the vagina (unless, indeed, some curiosity of a being, like the doctor in the north, who denied Harvey's splendid discovery to his latest breath), so those who see no relation between laceration of the perinæum and prolapsus uteri, must deny the latter,—that is, that the vagina is one of the buttresses of the womb. They are shut up to the latter course, an unsatisfactory position indeed, and for this reason. It can be, and has been demonstrated, that the vagina aids in

supporting the uterus. When the ligaments of the uterus, broad and round, are cut through in the dead subject, and downward traction is made on the uterus, much resistance is opposed by the vagina and its connections, and considerable force is required to produce a prolapse. Evidence such as this is convincing, nay, irresistible; one fact is worth a tome of fancy. Those who underrate the perinæum as an antagonist of the diaphragm—as a prop and stay to the superincumbent viscera—are compelled to resort to other explanations of the manner of maintenance of position of those organs. For example, Dr Duncan has invented a hypothesis which he has termed the "retentive power of the abdomen," an account of which will be found in the *Edinburgh Medical Journal* for December 1865, or in the able author's work, entitled "Researches in Obstetrics," at page 409. The Doctor does not define precisely what this power is; at least he does not explain it sufficiently to my understanding. Is it some magnetic power or centripetal force, or just some mysterious and occult something which helps to maintain the viscera in their normal site? Whatever it may be, if it does exist, one thing is transparent, that when you breach the abdominal wall, it has not the power to restrain the viscera, or to hinder them from protruding.

Effect of Ruptured Perinæum on the Direction of the Vaginal Canal.—Further, ruptured perinæum favours prolapsus uteri by destroying the curvature of the vaginal canal, and making it approach to the perpendicular. In the normal condition of matters, the axis of the vagina does not correspond with the long axis of the uterus, but is at a certain angle from it, and prolapsus cannot take place in such circumstances beyond a very limited extent; for, if the uterus came down it would be met by the posterior wall of the vagina, and supported by it, just as is observed in those cases of labour where the uterus, from pointing too much in the direction of the axis of the brim, threatens to drive the child through the perinæum instead of the ostium vaginæ. The only way in fact in which uterine

descent could take place with the vagina normal, would be by the uterus becoming retroverted. The case is entirely altered, however, when the vagina loses its curvature and becomes vertical, it is then no longer capable of arresting the descent of the uterus, for its axis is continuous with that of the pelvic brim, and thereby a straight and facile avenue is opened up for the prolapse of the womb. It may not enter on the downward path, owing, say, to the strength of its superior attachments; but it can hardly avoid doing so when the road is so easy, and when, like a heavy goods train, there is an engine pulling in front and another pushing behind. The engine behind is the diaphragmatic force and that of the viscera lying above the womb, and that in front is the traction exerted by prolapsed contiguous viscera, rectum, or bladder.

Effect of Lacerated Perinæum on Bladder.—When the perinæum is torn extensively during labour, the vaginal orifice is rendered too ample instead of being firm and close. Usually the canal is obliterated by the pressure of the neighbouring viscera, the bladder anteriorly and the rectum posteriorly, and by its own tonic contraction, under normal auspices, so to say. In this occluded state it is a firm pillar to the womb, but now it is expanded, and in this yawning condition of the canal, and of its orifice, the bladder loses needed support, and gravitates gradually until a cystocele is established. This cystocele, from the intimate connection between the bladder and anterior vaginal wall, and betwixt this latter and the cervix uteri, almost infallibly exerts traction on the uterus, and draws it down, until ultimately a procidentia is produced. Thus a lacerated perinæum, by leading to prolapsus of the bladder, favours also prolapsus of the womb.

Influence of Ruptured Perinæum on Rectum.— If the bladder gravitates abnormally on being deprived of the support yielded by the vagina and perinæum, so does the rectum. Indeed, it is rather more apt to do so, as may be seen by making a female with lacerated perinæum, or even simply

with a very relaxed vagina and perinæum, bear down with as much force as she can command. In such a case, you will notice, perhaps, first the rectum coming down, and then the bladder and uterus. Well, in saying that the rectum is prolapsed, it is almost tantamount to saying that the uterus has descended, for the one cannot gravitate far without dragging the other along with it, so close is the connection between them. Thus, a prolapsed rectum due to a defective perinæum, is another cause of uterine descent.

Evidence derived from the Prolapse of the Aged.—Further light is shed on the relation of lacerated perinæum to uterine procidentia, by the prolapsus common to females of advanced years. It is common to find this displacement of the uterus in elderly women, where there is no hypertrophy of that organ, but rather, on the contrary, where there is atrophy, and consequently diminished, instead of increased, weight of the womb. Moreover, where there has been no exciting cause of an unwonted nature, such as that produced by physical exertion or straining. I have met with a few of these cases. How are they to be explained? Just in this way. There is an absorption of adipose tissue, and consequent shrinking of parts. The fat of the perinæum disappears, its muscles attenuate and become feeble, and it fails to afford the vagina adequate support. The ostium vaginæ also gapes widely from the wasting of labial fat; the result being that the natural curvature of the canal is done away with, and it becomes, as in rupture, more vertical, and its axis in approximation with that of the long axis of the uterus. Thus there is again an easy passage for uterine prolapse. The flabby vaginal walls also support the bladder very inefficiently, and a cystocele may be established, and help to drag the uterus down.

Prolapsus in the Young and in Virgins.—All that we have hitherto advanced has been in favour of the view that the perinæum has to do with the support of the uterus; but now it behoves us to notice some evidence apparently in

conflict with this doctrine. This is derived from the cases of nuns, or other virgins, who have been affected with prolapsus, notwithstanding that their perinæum has never been in the way of rupture, has never in fact been torn. There are also some few cases of children who have suffered from a descent of the uterus, and who have not of course suffered from a laceration of the perinæum. We have all known or heard of sturdy women able to go about, too, with their perinæum fissured, and yet having no prolapsus. These instances would therefore appear to stagger one a little; but yet our belief in the supporting power of the perinæum is not in consequence shattered, and for diverse reasons. (1.) We have seen that a perinæum, even though unruptured, if flabby and feeble, may favour prolapsus; and these nuns and other virgins may have had degenerate perinæal muscles, and scant store of fat, in the right place, that is to say. (2.) In those sturdy females who peregrinate with a split perinæum, and yet have no procidentia, there is usually hypertrophied tissue set up by nature as a substitute. (3.) The perinæum is only one of several props of the uterus, and not at all the most important one. No, the causation of prolapsus uteri is a wider affair (as we could have shown, had we been specially treating of the subject), its causes are numerous, because the womb counts numerous stays. Displacement need not follow the enfeeblement of one of these supports, because the others may be unusually strong. In one case, the prolapsus may be precipitated by weakness of the inferior supports; in another, by feebleness of the superior ones. Nay, more, a procidentia may be caused even when all the supports of the uterus are marked by their usual strength. In those conventual females, and other virgins, with prolapse without lacerated perinæum, the cause may have been an abnormally short, straight, and relaxed vagina, or a feeble perinæum; or a morbid or congenital debility of the utero-sacral, and broad and round ligaments; or there may have come into operation some of those various accidents, such as lifting weights, straining at stool, coughing,

jumping, etc., which involve much perpendicular force. Indeed, this explanation is rarely awanting in such cases. In the case of a child, such as the one mentioned by Monro, there may have been congenital defects to account for the displacement.

Besides, one or two cases will not prove a rule; or, if they did, we might say that menstruation began in infancy, and the power of conception extended to 72 years of age, or further. If it can be shown to us that cases of prolapsus are as numerous in virgins as in married and childbearing females, then our faith in the view we have been advocating will be powerfully shaken; but this is not the case. All gynækologists look upon the virgin cases as exceptional, and not very common, and that the bulk of them occur in those who have been exposed to the disorders of pregnancy, and the accidents of labour.

Such are the principal arguments in favour of the importance of the perinæum in relation to the maintenance of the womb in its position; and of its rupture as one of the causes of its displacement. I might have given extensive quotations from numerous authors in support of the opinions I have advanced, but space would not permit. Any one, however, may satisfy himself of the fact that there is wide testimony in favour of these views, by perusing the better known obstetric works. I trust that in this brief paper I have at least helped to vindicate the value of the perinæum,—a value which at our last gathering was somewhat depreciated,—and thus, perhaps, help to avert practical evil. For, if we hold too cheap any particular part, we are not likely to be so careful in conserving it; if we lightly esteem the perinæum of the female, we may not view its laceration as any great matter, nor the healing of it any great necessity, if necessity at all.

Dr Bell was of opinion that the perinæum is not a very important organ in the support of the uterus. The principal structures concerned in the support of the womb are the vagina and uterine ligaments, especially

the round ligaments. This is shown by the fact of the right round ligament being shorter than the left, in order to guide the uterus to the right side. There may be a ruptured perinæum without procidentia. It is doubtful if the perinæum can be of much use in counteracting the pressure downwards of the diaphragm, for in straining there is no tension of the perinæum. He had seen some cases in which the perinæum had been restored by operation, and the uterus came down notwithstanding.

Dr Ritchie alluded to the paper he had communicated from Dr Madden, with whose views the Society appeared to agree. Amongst other reasons for advocating the immediate treatment of rupture of the perinæum, one was to lessen the chance of prolapsus occurring, and another to permit the patient, if so afflicted, to wear a pessary. He was rather surprised, therefore, at the view the Society apparently took at the last meeting, and at that expressed regarding the function of the perinæum. He thought it was only reasonable to hold that where all the structures were intact there was less likelihood of prolapsus taking place. Hence, if the support of the vagina is taken away, the parts external to the uterus will become relaxed, and a tendency to descent of the womb favoured. Consequently he could not but regard the perinæum as aiding the ligamentous supports of the uterus.

Dr Gordon remarked that teachers usually pointed out that the perinæum afforded support to the uterus, as one of the pelvic organs.

Dr James Young said he agreed with the remarks made by Dr Bell. He remembered two cases where there was rupture but no prolapsus. He had also seen prolapsus in unmarried females, where the perinæum was quite tight.

Dr Cuthbert said he had met with cases where there was a good deal of prolapsus, and, at the same time, great narrowness of the vagina.

Dr Murray was of opinion that the retentive power of the abdomen must be weakened by rupture of the perinæum. He had seen cases of rupture without procidentia. The perinæum served to keep the vagina in a rigid state.

Dr Bruce thought that the perinæum had, to a certain extent, the power of supporting the uterus.