—THE—

Journal of the American Medical Association.

EDITED FOR THE ASSOCIATION BY N. S. DAVIS.

PUBLISHED WEEKLY.

VOL. I.⁴

CHICAGO, DECEMBER 22, 1883.

No. 24.

ORIGINAL ARTICLES.

IMMEDIATE PERINEORRHAPHY. TWO FORMS OF RUPTURE; THE SPECIAL TREATMENT OF EACH; CERTAIN DETAILS IMPORTANT TO SUCCESS.

BY E. C. DUDLEY, M.D., PROFESSOR OF DISEASES OF WOMEN, CHICAGO MEDICAL COLLEGE.

[Read before the Obstetric Section of the American Medical Association, June, 1883.]

During the past few years I have examined such gynecological cases as came under my observation for evidence of previous perineal rupture, and have specially observed, in those cases in which the immediate suture had been applied, whether the union had been such as to give the patient a solid, normal, triangular perineal body, capable of fulfilling all its functions. These observations were undertaken not for the purpose of publication, but as the basis for an individual judgment, and this is my excuse for the absence of accurately recorded statistics, but the conclusions which have forced themselves upon me are so adverse to what had been anticipated, and seem so important, that I venture to place them before you, as follows:

Upon ocular examination of the cutaneous side of the perineal triangle, this was, in the majority of cases, found united, but one index finger in the rectum and the other in the vagina showed an almost constant failure of union in the deeper muscular and connective tissues of the organ, with the resulting tendency to descent of the uterus by traction from the prolapsing anterior and posterior vaginal walls. It may be that the difference of opinion among the profession on the value of the primary operation of perineorrhaphy partly arises from the failure of many to examine with reference to the presence or absence of union in the deeper portions of the perineal body, and it would indeed seem that an important advance will be made when the whole profession comes to the practical appreciation and application of a certain truth, which with many appears to have little more than theoretical recognition. It is this: the cutaneous and subcutaneous structures constitute relatively the least important part of the organ, and that when rupture occurs, union of these structures, *i. e.*, the production of the so-called thin perinæum, is of little consequence, because the deeper and more important structures have failed to unite. Assuming that the cases which I have examined may fairly be considered

as representatives of their class, it follows that the immediate suture, as ordinarily applied, often at least, fails to fulfill its indication, and that it must either be made more efficient, or we must postpone all operative procedure until after convalescence, and then rely on the secondary operation. But, in such postponement, we fail to meet what many would regard the most vital and immediate indication for perineorrhaphy, *i. e.*, danger of sepsis by absorption through the torn surfaces, which, from their location and surrounding conditions, are peculiarly favorable to the development of wound disease.

But if the sutures fail to produce complete union of the torn surfaces, it is evident that they also fail to protect against sepsis. Indeed, they rather favor its development by producing additional irritation, and thus acting as a cause of wound disease. Moreover, the union of the cutaneous surfaces by closing the superficial part of the perinæum only, forms a pouch of the deeper torn surfaces, where the discharges may accumulate, and through which they may be readily absorbed. To prevent this, various faults in the primary operation should be avoided, and among them, the most important are certain defective methods of passing the sutures. I have myself seen the operation performed a number of times when only superficial sutures were used. Evidently such a procedure would not only be liable to fail of full union, but would also favor the formation of the already mentioned pouch, where the discharges from the uterus could accumulate and become septic. But it is possible that an equally effective source of error is in the failure to distinguish between the different varieties of rupture, and therefore to give to each case its proper method of suture.

The commonly accepted form of perineal rupture causes the perineal body to be separated into two parts, the one retracting to one side and the other to the opposite side of the vaginal outlet. In this form of rupture, we have two plane, raw surfaces of triangular shape to be approximated. The method of operation is almost self-evident. It requires the sutures to be passed transversely from one side of the raw surfaces to the opposite side, commencing at the vaginal extremity of the rent, and continuing them one after the other, at intervals of about one-fourth inch throughout its whole extent, the last suture being nearest to the anus. When the operation is complete, about one-half of the sutures have their points of entrance and exit in the vaginal, and the others on the cutaneous side of the perineal triangle. It is owing to the fact that many practitioners omit the

vaginal sutures, that union in the deeper perineal structures is so often wanting. Sometimes the attempt is made to draw the vaginal portion of the rent together by a single suture, having its points of entrance and exit at the posterior commissure of the restored vulva, and passing around the vaginal portion of the rent, so as to pull its inner extremity forward and either draw the margins on either side into a pucker or cause them to gape. The following schematic drawings will illustrate :

FIG. 1.

Figure 1 shows the two lateral triangular torn surfaces, with the sutures introduced in such manner that, when tightened, the surface 1, 2, 3 shall be in contact with the surface 1, 4, 3. All sutures above points 2 and 4 are in the vaginal portion, and those below 2 and 4 are in the cutaneous portion of the perinæum. On account of the difficulty of removing the vaginal sutures, silk or catgut might be substituted for silver in this part of the wound.

FIG. 2.

Figure 2 shows the sutures introduced on the cutaneous side, and a suture 1, 2, 4 on the vaginal side, in place of the proper vaginal sutures as shown in figure 1. It is evident that, after approximating the torn surfaces on the cutaneous side by tightening the cutaneous sutures, the vaginal suture 1, 2, 4, which properly belongs in the secondary operation, would in the primary operation for this form of rupture, only serve to prevent proper union of the vaginal margins of the wound by causing them to pucker or to gape.

Obviously, the last-named suture, although indispensable in the secondary operation, meets no indication in this form of rupture, but, by its action of corrugating the margins of the vaginal portion of the

wound, tends rather to distort than to restore the perinæum.

But there is another form of perineal rupture, not mentioned in the standard text-books, and, so far as I am aware, hitherto undescribed, in which the operation just mentioned (see figure 1) is not only impossible, but its attempt must necessarily be followed by failure of deep union. It is a form in which the tissues are separated in three directions instead of two. Text-books on midwifery mention as an accident of great rarity the so-called central rupture, in which the child, instead of passing through the vulva, tears its way through the perineal body, and passes out by an opening somewhere between the posterior commissure of the vulva and the anus.

I would now ask your attention to one of the special points of this communication, which is that, although complete central rupture of the perinæum is a rare accident, incomplete central rupture is not so rare. Indeed, there is reason to suppose that in a large proportion of cases, the rent commences as a central rupture, but instead of going on to complete perforation of the perineal body, the tissues in front give way and retract to either side, by a rupture extending through the posterior commissure back toward the anus. Now, if the commencing central rupture be also in the antero-posterior direction, then the whole rupture is of the simple form already described; but if the central portion of the rupture be transverse instead of antero-posterior, and extend from side to side of the perinæum, whether in a straight, curved or broken line, then all the perineal structures beyond it must be retracted toward the inner extremity of the vagina, and the closure of the perinæum thus ruptured must necessitate the approximation of tissue from three directions. The following figure will illustrate :

FIG. 3.

Figure 3 represents the transverse central rupture. The surfaces included within 6, 1, 2, 3, 4, are on the vaginal, and most of those between 6, 5, 4, are on the cutaneous portion. The sutures in the cutaneous portion are intended to approximate the tissues from side to side. The suture 6, 2, 4, when tightened, should draw into apposition the two margins of the transverse vaginal portion of the rent. The lines of union would then be in the shape of the letter T, its cross-piece in the vaginal, and its staff in the median line, and mostly in the cutaneous portion of the perinæum.

In addition to the vaginal suture 6, 2, 4, it is important to pass on either side of it three or four sutures to approximate more securely the transverse part of the rupture. These, having their points of entrance and exit in the vagina, would be difficult to remove until two or three weeks after operation, and should, therefore, be of catgut or carbolized silk instead of silver wire.

Uniform success further depends upon attention to certain details, which are here mentioned, with no claim to originality, but for the purpose of urging their importance. All shreds should be detached by scissors before closure, as they may, by sloughing, prevent union. If the lacerated surfaces have been much bruised or ground by the pressure of the child, they may, to advantage, be pared here and there, where the contusions seem greatest, but this will be required very little in the majority of cases. Silver wire has been demonstrated by experience to have great advantage over silk or catgut. It cannot, like the two latter, absorb moisture, and thus become septic and favor suppuration. Number twenty-six is a size well adapted to perineorrhaphy. The sutures should be deeply buried under the torn surfaces, and, if possible, should be visible nowhere between the points of entrance and exit. Suppuration along their track is much more probable if this caution be disregarded. Place the sutures about one-fourth inch apart, but care should be taken to twist them tightly enough only to bring the opposing surfaces into contact. The subsequent swelling will create sufficient tension. While the sutures are being secured, it is well to have the patient on a bed-pan, and the surfaces constantly irrigated with water from the fountain syringe, for the purpose of washing away all blood adhering to the wound. Solutions of carbolic acid over one per cent. are said to prevent union. Twisting the wires, as described by Emmett, has seemed to the writer much better than shotting them. The quill suture is clearly impossible where a part of them must have their points of entrance and exit inside the vagina. Occasionally superficial sutures will be needed, but they should include only the extreme margins of the mucous membrane or skin, their object being simply and only to bring these structures in apposition, so that when the operation is complete, no torn or denuded surface shall be visible, either on the cutaneous or mucous surfaces. Careful attention to these details will, in nearly every case, be followed by satisfactory union by first intention, the exceptions being, in general, those cases in which, from long continued pressure of the child on the perinæum, that organ had become so bruised as to make it incapable of union.

Upon examinations of a number of results thus obtained, several months after the patients had been discharged, the perinæum was found, in each case, to be of normal shape, *i. e.*, solid and triangular, but its volume was often so far below the normal standard that it was incapable of fulfilling perfectly its functions, and there was observed a resulting tendency to cystocele and the consequent uterine displacement from traction produced by the falling of the vaginal walls. This defect in volume may depend upon any one or all of a number of causes.

1. Possibly the restored perinæum may, in a limited number of cases, undergo superinvolution. 2. Evi-

dently the new tissue, of which the line of union is formed, would tend to contract, and with it the perinæum also. Besides, the perinæum is held somewhat compressed during the healing process by the sutures, and this new first intention tissue would tend to tie the organ, as it were, into its compressed shape.

3. Probably, also, in many cases, union in the superficial part of the wound, which is more exposed to the discharges, may, to some extent, be defective. Certain it is, whatever be the cause, that, in my former experience, after involution, the restored perinæum was generally too small.

To obviate this difficulty I have, in a number of cases, recently resorted to a very simple procedure which has uniformly been followed by satisfactory results. The device simply consists of denuding a strip about three-sixteenths of an inch wide all round the torn surfaces. This strip should be a little wider in the vaginal portion of the wound than in the external cutaneous portion. It has the effect of increasing the extent of the surfaces to be united by as much as the width of the denuded strip. In consequence of the early and firm union which takes place between these smoothly denuded surfaces, the weaker union beneath is protected from the injurious influence of the discharges. Clearly, this procedure is essential to a perfect result in multiparæ, whose perineæ have suffered slight lacerations in previous labors. My own experience with it has been so satisfactory that I should not omit it in any case.

NOTE.—Since reading this paper, a remarkable and original communication has been presented by Dr. T. Addis Emmett to the American Gynecological Society, in which he took the ground that in all ruptures of the perinæum, a successful result depends upon an operation which draws the crest of the posterior vaginal wall forward against the perinæum. It is clear that this must be true in all cases of transverse rupture, and if the transverse form of rupture should prove, on further investigation, to be a common form, then a most apparent reason would be furnished for the position taken by Dr. Emmett. I am unable to make a definite statement with reference to the frequency of the transverse rupture, but may say, at least, that it can hardly be very rare, since I have, during the past few months, personally observed five cases, of which three were torn transversely. It may prove to be the more common form of the two.

DISCUSSION.

Dr. W. H. Wathen, of Louisville, said: All leading obstetricians now practice and recommend the immediate union of the lacerated perinæum after the most improved methods of operating, but that Dr. Dudley's practice of further denudation of the vaginal surfaces of the torn edges is generally unnecessary, and complicates the operation, so that the general practitioner, who does most of the obstetric practice, would not perform it. It is true, that by his method, we may get a thicker perineal body, but if the sutures be properly introduced, with no additional denudation, and the after treatment carefully attended to, the united edges will form a perinæum of normal dimensions, and the operation can be performed with no assistants, without an anæsthetic, and nothing is needed but a needle, and silver or silk sutures. Instead of complicating this operation, we should attempt to reduce it to such simplicity that any physician will feel equal to the task of repairing a recently ruptured perinæum, thereby preventing immediate or subsequent disagreeable results. All physicians should examine the perinæum in every labor, and where there is extensive laceration, partial

or complete, should operate at once. Deep lacerations of the perinæum, if not united, will result in subinvolution of the vagina, uterus and its appendages, and is often followed by prolapsus of the uterus and vagina, with cystocele or proctocele. This is especially apt to occur in the laboring classes, and is difficult to relieve, and sometimes cannot be cured.

TINNITUS AURIUM AND VERTIGO AS PROMINENT SYMPTOMS OF LITHÆMIA.

BY GEORGE H. LYMAN, M.D.

[Read before the Section for Clinical Medicine, Pathology and Hygiene of the Suffolk District Medical Society, November 14, 1883.]

There is, perhaps, no class of patients coming under a physician's observation, which are more troublesome than those cases of gastric and hepatic derangement due to the lithic acid diathesis, so-called. The functional disturbances are so associated with nervous phenomena, as to render the sufferer impatient and intractable, skeptical of your assertion that he has no serious organic disease, and ready to try every nostrum and accept every diagnosis but the true one from the numerous professional and lay friends whose sympathy he seeks.

Although lithæmia, lithuria, lithiasis, etc., have now become tolerably familiar terms to the profession, the whole subject still remains more or less obscure, especially the subjective semiology and the relative importance of the renal and hepatic pathology. The true nature of the affection often escapes recognition by the medical adviser until some case presents itself which cannot be ignored, when he is forced to closer inquiry into the antecedents and a more rigid analysis of the symptoms. He then discovers that he has to deal with something more than a mere gastric derangement, indigestion, dyspepsia, or what not, vague terms with which he has temporarily satisfied his own conscience and his patient's importunities; his blue pill and pepsin, his alkalies and sedatives, either separately or in some incongruous combination, have generally been a lamentable failure. In mild cases, to be sure, the mark is occasionally hit by some snap shot; but when the patient, superadded to his other grievances, has an incessant tinnitus, he loses faith in the stomach doctrine, or if his memory begins to suffer, or he has occasional attacks of vertigo, so sudden and severe as to make him unwilling to trust himself alone in the street, what wonder that he should seek other and special skill in brain, heart, eye or ear, to the great discredit of the general practitioner; for though he may get no more relief by the change, his subjective symptoms get more direct attention, and he, at any rate, is for the time being satisfied that merely local treatment is exactly what he needs.

While the first of the following cases was under observation, the admirable article of Dr. DaCosta appeared in the October number of the *American Journal of Medical Sciences* for 1881, in which these nervous phenomena especially are brought more prominently forward than in the famous Croonian Lectures of Dr. Murchison, which have done so much,

by stimulating inquiry, to develop our knowledge of these lithæmic conditions. Although I cannot hope to add anything to the value of Dr. DaCosta's paper, possibly some allusion to a series of my own cases may be of interest to others.

The disorder in question has no fixed set of symptoms. The subjective expression of the pathological condition may manifest itself in protean forms. Either the gastric, rheumatic, renal, hepatic, cerebral, or cardiac, or several of them combined, may seem to predominate in any particular case, yet each is dependent in great measure upon certain lithuric conditions, which, being neglected, render any treatment unsatisfactory, if not wholly useless. There is necessarily neither nausea, constipation nor diarrhœa; headache, insomnia, or palpitations, myalgic pains, or urinary deposits, all in any given case. The subject of it, indeed, is quite likely to express himself as being otherwise in good health and strength, vigorous in mind and body, and yet so tormented at times, and apparently without cause, with one or more of the functional nervous phenomena described, as to induce in him the fear of some fatal organic defect of heart or brain.

Of the varied symptoms none are more distressing than the two which are the more immediate subject of this paper: A constant tinnitus aurium from which there is no escape during the waking hours, and which indeed often interferes with the sleep—buzzing, ringing, clicking or constant pulsation, for which no visible or tangible cause can be discovered either in gastric disorder or the external and internal auditory apparatus—is not only a constant source of annoyance but of serious apprehension to its unfortunate possessor; or still more if, either with or without this tinnitus, the victim finds himself the subject of sudden attacks of vertigo, so severe and decided as to cause a staggering gait, possibly complete prostration, as in an attack of epilepsy, the case assumes a gravity which startles and terrifies its subject into fear of impending death.

In one case a young, active business man, apparently in vigorous health, in addition to some of these symptoms, finds his memory failing to such a degree as to impair business efficiency; he can not recall the prices of his goods, the daily changes in stocks, etc., and fancies that he is threatened with paralysis, brain softening, or some dire evil which is to bring ruin upon him.

Another will have renal complications dependent wholly upon some hepatic derangement of function which sends him from one physician to another in the hope of relief to his fear of Bright's disease, diabetes, or cystic calculus, while still another may be complicated solely with tormenting muscular or arthritic pains. And so on one might recall instances of one more of these with the addition of purely nervous complications, simulating to the fears of the patient almost every conceivable organic disease.

The first of the ensuing cases only is given in some detail, it being a striking instance of the disorder, and one which, with its coincident organic cardiac complication, might well have caused much concern to both physician and patient, but which, when its true na-