Bronchiectasis.

I have described so many of these cases in different publications that I will not burden you with any of them here. Some have been the result of old pleurisies; some have occurred apparently spontaneously, others have followed the inspiration of foreign bodies. In one only¹ has a completely good result followed operation. Some have been allowed to close; some have worn a drainage tube permanently; in a few cases the patients have appeared to have been actually worse for the operation.

Hydatid.

CASES X and XI.—We have had several cases of suppurating hydatid in the lung at the Brompton Hospital. Two have occurred during the last year, both in young women, both in the lower part of the right lung. One was for a long time mistaken for an empyema, and in the other the diagnosis was very doubtful until some cysts were expectorated. Both healed after incision, but both have now unfortunately developed tuberculosis—a possible sequence of this disease that should be borne in mind during the treatment of the case. In the case which was supposed to be an empyema I was proceeding very cautiously, because there was such a small space over which the physical signs seemed to warrant an incision. After removing the rib I could see the unadherent lung slipping backwards and forwards beneath the healthy pleura; so I at once introduced the stitches in the usual way and found on incision of the lung the suppurating hydatid quite close to the surface.

In concluding this somewhat desultory lecture I would again refer to the well-known fact that cases of pulmonary abscess (like those of empyema) are not infrequently followed by cerebral abscess. The treatment of these abscesses has so far been very disappointing. Not that they are always difficult to open, but they are often multiple, and the other results of embolic pyæmia are not seldom present.

REFERENCES AND NOTE.

¹ *Lancet*, 1887, vol. i, p. 513. ² *Ibid.*, 1887, vol. i, p. 512. ³ Since the lecture was delivered this patient has died of a cerebral abscess. ⁴ *Med.-Chir. Trans.*, 1886, vol. lxi.

ON LATERAL CURVATURE OF THE SPINE: ITS PREVENTION AND TREATMENT.

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I.

IN 1897 appeared in the *JOURNAL* two papers by me¹ on Lateral Curvature, dealing largely with a sideways divergence of the pelvis and lower limbs, which, until I mentioned the subject in 1895 in my work on scoliosis, was unsuspected, and had altogether escaped recognition. I named this condition "amesial pelvis." It is of necessity followed by lateral curvature of the spine in such wise that pelvic deviation to the right produces lumbar or total curvature to the left, and *vice versa*. Both these forms, but more especially the latter, are very apt to develop into the double or S-curve. I would wish now to complete my survey of pelvic aberrations, because they are most important factors in the production, their correction essential to the prevention and treatment of lateral curvature. Besides amesiality there are two conditions to be noticed: namely, version and obliquity.

The former of these has hitherto escaped observation; the term is intended to designate a twist or rotation of the pelvis on a vertical axis, so that one side of the bone lies further back than the other, the defective posture being named according to that side of the pelvis which lies most backward. The direction of this backward twist is usually left, and is followed by a left convex lumbar or total curve; while when the right innominate bone is thrown back the resultant spinal curvature is right convex. Version is independent of, though frequently combined with, amesiality, but as far as the deviation is concerned in contrary sense: thus when both deviations coexist left version coincides with right amesiality, and *vice versa*. A mere inspection of the back, while the patient stands in drill posture in front of the surgeon, hardly reveals with any certainty this deviation, especially in its slighter or incipient stages, while when merely the back and loins are uncovered—a too frequent practice—the condition is of course entirely hidden. A good photograph taken under such conditions as I described last August, as ensuring by triangulation an absolutely correct position of the camera vertically behind the patient, will always reveal the defect, because that lateral half of the pelvis which is thrown backwards presents a broad side view, while that which is projected forward only affords

a narrow foreshortened image of the gluteal region. Fig. 3 was thus taken: it shows a child, aged 12, with double curvature (dorsal to right, lumbar to left), with both amesiality and version of pelvis. If, to apply this test, we measure with compasses the distances from the rima natium to the side outlines of the pelvis, we find the left one to measure $\frac{1}{8}$ inch, the right $\frac{3}{8}$ of an inch, which, as the girl is 4 ft. 8 in. tall, implies a real divergence of two inches.

It must not however be supposed that this malposture is only present during standing; on the contrary it is also present while the patient is sitting. Indeed, the origin of version is in the large majority of, if not in all, cases, due to a faulty habit of sitting, chiefly acquired while the child is learning to write. This is at that early age a very difficult business, which in order to leave the hand free and also under complete control, requires fixity of the shoulder girdle, and this again, perfect steadiness of the spine. The muscles securing this latter condition soon tire, more especially in the dorso-lumbar region; therefore, to ease them without losing stability or changing the position of chest and shoulders, such a twist is given to the pelvis, and with it of the lower vertebræ, as shall relieve the muscles and throw the work on the ligaments. The twist, be it remarked, must be of the pelvis, for if while this were steady the spine were turned, the chest and shoulders would turn with it; their posture necessary for writing would be lost. This twist or version of the pelvis, including of course the sacrum (part of the vertebral column) is in the same direction as the subsequent or simultaneous torsion of the resultant lateral curvature, which when it has been for some time maintained becomes habitual, not merely while writing, but in all sedentary postures; subsequently also in standing. The ligaments and muscles then rapidly contracture and adapt themselves to the posture and to the curve.

Fig. 1.—Permanent Obliquity.

Fig. 2.—Habitual Obliquity.

Though a good deal of the space at my disposal has been occupied by the description of this malposture, I must, on account of its importance, recur to it; but it will be better previously to cast a glance at the whole series of pelvic deviations, for they lie at the root and origin of very many curvatures. If, therefore, they can be detected while still quite recent, a large percentage of spinal deformities may be altogether prevented. Endeavours in a later phase to straighten a

spine which has become crooked because the basis on which it stands is awry, can hardly be successful unless that fault in the base be rectified—as to shore up the top storeys of a house without attending to a defective foundation can but be a futile and disappointing experiment. In aid of this thesis I show here examples of the three pelvic deviations. They are “obliquity,” of which two kinds exist, namely, permanent obliquity, produced by some cause that renders one limb shorter than the other (Fig. 1); and habitual obliquity, which is a mere position.²

Should such individual stand sometimes on one sometimes on the other foot, no evil would result, which only occurs when one limb is used almost exclusively (Fig. 2).

Fig. 3.—Amesiality.

Fig. 4.—Version.

Pelvic amesiality is that posture described by me last year, but illustrated in this place by a different figure (Fig. 3), while the last plate (Fig. 4) is pelvic version. I would beg my readers in looking at these to consider how a spine can possibly stand straight on any one of the pelvis, while they maintain one or other of the very common positions here depicted.

But I am forestalling matters. The subject just now is prevention of lateral curvature, which, of course, presupposes early recognition of pelvic defects.³

Permanent Obliquity (Fig. 1).—The figure is taken from a severe case; the condition, however, especially if due to mere inequality of growth, is often so slight as easily to escape notice, yet abundantly sufficient to produce curvature of the lumbar spine. The patient standing so that the light falls evenly on the figure, and so that some distance in front of him is a straight horizontal line, as, for instance, the edge of a table or a dado, the surgeon putting the index of each hand on the crests of right and left ilium, so stoops that this line corresponds with one of the fingers. If it fall also on the other, the pelvis is not oblique; but it is so if that other finger lie above or below the horizontal line. If such discrepancy be found, the length of the limbs should be measured. To do this simply with a tape measure stretched between certain points of bone frequently misleads. I would suggest, instead, the following method: let the patient lie supine on a sofa, holding one end of a piece of string on the centre of the episternal notch, while the surgeon so arranges the trunk,

pelvis, and lower limbs, that the cord may fall on the xiphoid, the umbilicus, and other central points, and is brought down between the malleoli. With such arrangement there can be no possible tilting of the pelvis; and unless the two internal malleoli lie on an even plane the limbs are of unequal length. In only a few exceptionally difficult cases is it necessary to uncover the hypogastrium and upper part of the thighs.

Habitual obliquity (Fig. 2) is to be detected by somewhat assiduous watching. The surgeon may often see the position when the patient is in his room, but he has no opportunity of verifying it as a habit. By explaining the suspected position to the mother, or to one pretty constantly with the patient, such companion or attendant will act as his detective.

Amesiality (Fig. 3).—In this place must be interpolated that last year I stated myself to be unable to account for the origin of this deviation, but since then my studies of such cases have shown me that in all or nearly all cases it originates in a faulty mode of sitting different from that which causes version. To this point I must shortly recur, but just now my subject is diagnosis. As shown last August, the camera is a diagnostic instrument of great value; but for the persons immediately surrounding the child and for the family attendant it hardly is applicable for the early detection of the defect. The patient's back must be bared to just below the level of the trochanters and the remaining garments pinned up so as to show the juxtaposed heels. She will then be placed in drill posture and the surgeon standing some five or six paces behind her holds a plumbline so that it falls over the interval between the feet. If the pelvis be amesial the rima narium will not coincide with the cord but will be to its right or left. When the patient is dressed again, or so far dressed as to eliminate any sense of shyness, a pen should be given her and she should be told to sit down and write either at a desk or flat table, whichever is her custom; the posture of pelvis is then to be studied as to whether one side of it is more prominent than the other, but more particularly whether or no she put equal weight on each side. Often it will be found that she sits entirely on one tuber ischii, the other not supporting any weight at all, the skin over it barely touching the seat. If the left be thus used amesiality in the erect posture will be found to the right and *vice versa*.

Version of the pelvis though not easily verified by looking straight at the flat of the back is not difficult of diagnosis. Let a piece of white tape be fastened with carpet pins to the floor and arrange the patient, who, however, must be nude, in drill posture, so that the heels just touch the margin of that line. The surgeon places his eye so that he looks down along the surface of the back and so that the glutei (one or both) coincide with that line; if both do so there is no version, but such defect is present if one just touch, the other project beyond the tape. But in the earliest beginning version is a fault not of standing, but of sitting; its diagnosis in the latter position is easier of detection and does not require undressing. If the patient be told to sit on an ordinary chair and in her usual position, but with the knees in contact, one may, in well marked cases, discover by palpation that one or other side of the pelvis lies in a plane behind the other. But such mode is in practice rather uncertain; one must inspect by touch, or sight the knees—if there be, let us say, left version, the knee of that side will be found quite an appreciable distance behind the right one. A flat ruler placed on each ligamentum patellæ will slope backwards on left side. The object of these somewhat minute, but let me hope not wearisome, descriptions is simply to impress on all who have to do with the rearing and education of young people the necessity of close observation of their postures, more especially during the time of study. The hours thus occupied have of late years been greatly augmented. During the same epoch the prevalence of lateral curvature has greatly increased and my desire is to enforce the lesson that the deformity is not a mysterious and inevitable fate; but in a large majority of instances a thing that can be avoided if some intelligent observation be used and proper means be taken. What those means are and their mode of application will be the subject of my next communications.

NOTES AND REFERENCE.

¹ BRITISH MEDICAL JOURNAL, 1897, vol. II, pp. 132, 335. ² These deviations being fully treated in my work on *Lateral Curvature* need little

more than mention in this place. I again must say that not all, though a very large number of curvatures, are due to pelvic deviation; it is, therefore, those only for which prevention is here proposed.

(To be continued)

A CONTRIBUTION TO THE TREATMENT OF PUS IN THE PELVIS.*

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FOUR or five years ago, under the influence of the teaching of Lawson Tait and C. J. Cullingworth, we might have looked upon the treatment of pus in the pelvis and pelvic organs as settled for ever. The brilliant results achieved by these operators, especially by the former, are only equalled by the clear and decisive way in which they have described the cases, with their pathology and treatment. The treatment laid down by Cullingworth in his inaugural address on Pelvic Abscess delivered to the Midland Medical Society in the autumn of 1893, may be summed up as follows: For all cases of pyosalpinx, tubo-ovarian abscess, and ovarian abscess removal in its entirety of the organ containing the pus through an incision in the abdominal wall. For all cases of extra-peritoneal suppuration—that is, of pelvic cellulitis gone on to suppuration—incision and drainage through the point in the abdominal wall above Poupart's ligament where the abscess usually points. Mr. Tait in his book on abdominal surgery advocates abdominal section and drainage for cases of suppurating hæmatocele of the broad ligament, and even for cases of pus in the broad ligament.

In the Obstetrical Society's *Transactions*, 1892, vol. xxxiv, p. 254, is a most interesting paper by C. J. Cullingworth on the value of abdominal section in certain cases of pelvic peritonitis. Of 50 cases reported here in full there was suppuration in 30, chiefly tubal and tubo-ovarian; of these 30 cases 6 died, giving a mortality of 20 per cent.

In the last ten years of his work at the Women's Hospital, from 1883 to 1892 inclusive, Mr. Tait operated upon 71 cases of pyosalpinx with 11 deaths, a mortality of 15.6 per cent.

In the last ten years, 1888 to 1897 inclusive, in the Women's Hospital the appendages have been removed for pyosalpinx 105 times with a mortality of 15.2 per cent.

My own cases of pyosalpinx and tubo-ovarian abscess are 20 in number with 3 deaths, a mortality of 15 per cent.

All these figures refer to cases of pyosalpinx treated by abdominal section, and we may therefore take it that the mortality in these cases is on an average 15 per cent., or possibly, even a little higher. Up to the spring of 1897 I had operated upon 15 of these cases with 1 death, and I confess that I was quite satisfied that the method of operation as practised was the best, and should be adopted in all cases. During the summer of 1897 I was led to consider the question again. Two deaths which occurred in my practice at that time—1 at the hospital and 1 in private—impressed upon me the necessity, if possible, of some improvement in the method of treating a certain class of these cases. I say "a certain class of these cases" because I want it to be clearly understood that for the great majority of cases of pyosalpinx removal through an abdominal incision is undoubtedly the best method of treatment. I will even add that removal by this route—the treatment, in fact, first laid down by Mr. Tait—is the ideal method in every case. But if by some other method we can give the patient a greater chance of life and an equal relief from her suffering, then I maintain that it is our duty to adopt that method. This method is incision and drainage from the vagina, a method mentioned by Mr. Taylor in his recent paper to the Midland Medical Society.

Before dwelling in any detail upon the method, let me first of all say in what class of cases I should adopt it. I advise its adoption in cases of long duration in which the pyosalpinx, or an abscess communicating with it, can be felt filling up Douglas's pouch, in which the patient is exhausted both by pain and prolonged suppuration, and suffers from emaciation and night sweats. She is, in fact, in a hectic condition, and

absolutely unfit to stand a prolonged abdominal section. The intensity and the amount of the pain in these cases are an indication of the extent of the peritonitis and consequent adhesions and possible localised intrapelvic suppuration. The salpingitis itself does not cause intense pain; it is the peritonitis due to extension of inflammation or even leakage through the abdominal ostium of the tube that causes pain. The peritonitis may be suppurative, but, as a rule, the pus is shut off from the general peritoneal cavity by adhesions, and forms a localised intraperitoneal abscess communicating with the pus sac formed by the tube. It is in these cases that the tube or pus sac forms very dense adhesions with neighbouring organs. Adhesions are encountered in most cases of pyosalpinx; these, as a rule, can be separated easily and safely with the fingers or mop. It is not, however, always so; in the more severe cases they can only be separated with great difficulty, and with the risk every second of tearing the bowel. In my two fatal cases of the summer of 1897 I removed from one a double pyosalpinx, from the other a large tubo-ovarian abscess; in both the adhesions to bowel were extensive and strong. I separated them as gently as I could with a mop, and, as far as I could tell, without any injury to the bowel, but both patients died of perforative peritonitis. The abscess cavities in both of them could have easily been incised from the vagina, the adhesions would not have been disturbed, the cavities would have granulated up, and I believe I should have saved them both.

I have no doubt I shall be told that it is not good or scientific surgery to leave the pus sacs behind; that it is a reversion to the old method of tapping from the vagina; that suppurating sinuses will be left after convalescence, which will discharge for an indefinite time; and that it is quite possible that all the pus sacs will not be opened. I can only say that surgery which cures with the least possible risk to life is to my mind good surgery. That it is a reversion to the old method of tapping I absolutely deny. That was and always will be a step in the dark, and can never result in good drainage, without which the pus sac will never heal up.

As regards suppurating sinuses, I can only say that I have not had any experience of them in vaginal cases. Are they unknown in the cases treated by the abdominal route? My only experience of an obstinate sinus was in a case of large double pyosalpinx rising nearly up to the umbilicus, removed through the abdomen.

With regard to the last objection—that some pus sacs may be left unopened, I will deal with it when I speak of the technique of the operation itself.

I have operated upon six cases of pyosalpinx by the vaginal route; not a large number, I grant; but the results have been so satisfactory, and the convalescence has been so easy and quick that they are quite sufficient to convince me of the advantages of this route. They are all perfectly well now, they have no abdominal scar, no necessity for wearing a belt, and run no risk of getting a ventral protrusion.

Table of Cases.

Initials.	Married or Single.	Date.	Place of Operation.	Disease.	Operation.	Result.
A. C.	S.	Nov. 29, 1894	Newhall Street	Pyosalpinx and localised pelvic abscess	Incision and drainage from vagina	R.
H. M.	M.	Jan. 9, 1897	Women's Hospital	Double pyosalpinx	Removal per vaginam	R.
L. G.	M.	Jan. 18, 1897	Women's Hospital	Large left pyosalpinx with myoma uteri	Vaginal hysterectomy and drainage	R.
E. C.	M.	Mar. 4, 1898	Dudley	Large left pyosalpinx	Incision and drainage per vaginam	R.
A. F.	M.	Mar. 20, 1898	Women's Hospital	Large left pyosalpinx	Incision and drainage per vaginam	R.
E. M.	M.	July 6, 1898	Moseley	Double pyosalpinx	Removal per vaginam	R.

In addition to these there are 4 cases of pyosalpinx treated by my colleagues by this route on record in the Women's Hospital statistics.

The first of these cases was operated upon as far back as

* Read at a meeting of the Midland Counties Branch of the British Medical Association.