CASE III.—In April, 1881, Mr. H. was recommended by my first patient, Dr. M., to come to me, as he was suffering from traumatic deafness of the right ear, and the left was useless through complete occlusion of its meatus by a large ivory exostosis. In the earlier of two operations for the removal of the tumour, the steel guard broke in the ear, and could only with difficulty be extracted. An iron guard, which I had by me, was then substituted. It is important, I may here note, to have the guard made of metal that will bend without snapping when subjected to strain. The treatment, after the drilling of the exostosis in this case, resolved itself into the removal of granulations from the opening made, and the patient then recovered his hearing.

CASE IV.—In my next case, that of Miss M., aged 19, sent to me by Dr. McMunn in September, 1881, there were two osseous growths in the right ear, which caused complete deafness as regarded air-conducted sounds. Both were pedunculate, and one was attached to the posterior, the other to the anterior, wall of the meatus. They were removed by means of a dentist's stump-forceps, not being of an ivory-like consistency. Cases similar to this are not unfrequent in hospital-practice, in which the ivory-like growths are of comparatively rare occurrence.

CASE V.—Miss A. was first seen by me on February 17th, 1882. She had, in consequence of measles at the age of 6, for twelve years been the subject of a constant purulent discharge through the right membrana tympani; and, since Christmas, 1881, she had been increasingly deaf. I discovered an ivory exostosis attached to the posterior wall of the meatus, but, as this had not attained size sufficient to impede free escape of the discharge, I deferred treatment for a while. In the following May, when I next saw my patient, the exostosis had so increased in size that only a slender probe could be passed between it and the anterior wall of the meatus, the flow of the discharge was hindered, and deafness was complete. Removal of the obstruction was now evidently requisite, as retention of pus in the meatus might have been attended with serious risk to the patient's life. The complete drilling of the growth was effected in about half an hour; and, very soon after the operation, the patient's hearing began to return, and, after the lapse of a couple of months, it was fairly restored, notwithstanding the existence of a perforation in the membrana tympani. In this case, the origin of the exostosis was evidently inflammation set up by a perpetual discharge from the middle ear.

CASE VI.—J. F., a girl, aged 18, came to me as a hospital patient, March 20th, 1882. After suffering from increasing deafness for eighteen months, she had, four weeks before I saw her, almost completely lost her hearing in the left ear. I found that there was a large, painless, and deeply seated tooth-like excrescence of soft bone on the posterior wall of the meatus. This I found it possible to sever from its attachments with a dentist's elevator, which, for the treatment of a true ivory exostosis, would have been of no avail.

CASE VII.—In another somewhat similar case, that of Miss H., aged 24, sent to me by Dr. Gibson, of Hull, and treated by me in June, 1880, the growth, which was very sensitive, and was attached to the anterior wall of the meatus, was cleared away in fifteen minutes, a strong pair of dressing forceps being applied after a small hole had been drilled in the base with the dental engine.

The cases which I have next to describe are instances of the occurrence of true ivory exostosis, satisfactorily removable only by the use of the dental engine.

CASE VIII.—Mr. W. G. D. G., aged 46, from near Waterford, thus succinctly describes the origin and treatment of the exostoses for which he was sent to consult me. "I was first troubled by an abscess in my right ear in September, 1883, the effect probably of sea-bathing, and of the frequent use of an old spring-board on Kelly's Rocks. The abscess caused deafness for some three or four weeks, but was eventually cured by the application by Dr. O'Farrell of a solution of caustic. In October, not being satisfied with my ear, I consulted Mr. Fitzgerald, of Dublin, who said the passages in both ears were much contracted, and I might eventually have to get them operated on. He prescribed a lotion, which I used for some time, and hearing came back all right. In 1884, I was yachting from the middle of May till the end of September, and took a header or two off the main boom each morning. At the end of the season, I was again troubled with an abscess, this time in the left ear, causing deafness. At the end of November, I consulted Mr. Field, who diagnosed double ivory exostosis. After the removal of a polypus from the left ear, its hearing returned; but the exostoses had now so increased that, as soon as I could spare time, early in February I had the worse ear, the left, drilled, the operation lasting sixty-five minutes. In consequence of leaving London before the ear was sufficiently healed, it became filled with granulations, which gave much trouble to get rid of, from the

beginning till near the end of March. On the 9th of that month, the other, or right ear, was operated on, chloroform being administered for one hour and ten minutes, and in it hearing is now, as in the other, quite restored." The final result in this case, I may add, left nothing to be desired.

[To be continued.]

PELVIC HÆMATOCELE.

By FRANCIS IMLACH, M.D.,
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IN the BRITISH MEDICAL JOURNAL of May 16th, 1885, I published details of five cases of severe and long standing pelvic hæmatocele treated by abdominal section. When a small pelvic aneurysm bursts in an apparently healthy woman, the outflow of blood is sudden, and the patient may die in a few hours; but it is an error to apply the term hæmatocele to such an internal hæmorrhage, and none of my cases were of this cataclysmic character. They had all been invalids for periods varying from one to twelve years, some of them bedridden; and medical treatment, which I am ready to acknowledge as both skilful and patient, had failed to benefit them. I do not pretend that this disease is rapidly fatal. Probably the majority of my patients, though certainly not all, would still be alive if they had never submitted to operation; but they would have remained useless burdens, whereas now they are, without exception, well and free from pain. Having treated ten other cases of pelvic hæmatocele by laparotomy, I propose to state concisely the views as to the pathology of this disease, its diagnosis, and proper mode of treatment, which my experience in these fifteen cases has suggested.

I do not know how experts in review will judge the year's gynecological work; but, amongst the more important contributions, the series of articles upon uterine hæmatocele, published by Bernutz in the *Archives de Tocologie et des Maladies des Femmes*, for December, 1884, and January, February, March, and May, 1885, ought certainly to be included. It was in 1848 that he began to write upon this subject; and though Tilt, Meadows, Barnes, Duncan, Thorburn, and other English authors, have helped to elucidate its difficulties, no one has given them so much consideration as Bernutz. At first, he took a somewhat narrow view of the etiology of the disease, and certainly an untenable one, ascribing the majority of cases to menstrual retention from such congenital malformation as absence of the vagina or atresia of the cervix uteri. But, though he has quoted cases illustrative of the occurrence of pelvic hæmatocele where the vagina was absent or the cervix preternaturally narrow, it is now admitted by himself and everyone that this association is rare. There was certainly no pelvic hæmatocele in any of the few cases of vaginal malformation that I have seen, and all but one of my patients with pelvic hæmatocele have borne children or had miscarriages. While he has abandoned the theory of menstrual retention, he rightly maintains the importance of the distinction which he long ago pointed out between effusion of blood within the pelvic peritoneum and without it. He restricts the term hæmatocele to the former, and describes effusion of blood into the subperitoneal cellular tissue as thrombus. The frequency with which the term suppurating hæmatocele is employed, shows the confusion which has arisen from neglect of this distinction. Pelvic hæmatoceles do not suppurate until they have been punctured by the surgeon. It is possible that, by their pressure, perforation of intestine, or of a pelvic viscus, may ultimately take place; but when pus pours out, or is withdrawn by tapping, from the vagina of a patient in whom hæmatocele has been diagnosed, my belief is not refuted, for the diagnosis may have been mistaken. When laparotomy has been performed, there can be no such mistake: and I have not yet met with a case of suppurating hæmatocele.

Dieulafoy (*Gazette Hebdomadaire de Médecine*, June 5th, 1885, p. 371), in like manner, has combated the opinion that hæmorrhagic pleurisy ever becomes purulent. "Les pleurésies franchement hæmorrhagiques ne deviennent pas des pleurésies purulentes, elles restent hæmorrhagiques pendant toute la durée de leur évolution." In pelvic thrombus, on the other hand, the blood is always, according to my experience, mixed with pus; and I have never read a case where pure blood had been aspirated, in which I was satisfied with the diagnosis of cellular thrombus. Between abscess in the pelvic cellular tissue and thrombus, there is no line of demarcation; the pus may contain

only a few shreds of fibrinous clot, the foetid blood may contain only a trace of pus, or blood and pus may be in about equal quantities.

As regards the gross pathology of pelvic hæmatocele, Bernutz's experience has been gathered chiefly from *post mortem* examinations, a method of study which must be peculiarly liable to mislead, owing to the extensive changes likely to occur in this disease during the throes of death. He refuses to consider uterine or circumuterine hæmatocele as a special malady, though he admits it to be a pathological entity. But if we follow him in excluding hæmorrhages into the pelvis from sudden rupture of organs or blood-vessels, I do not know any disease which has more characteristic marks, or deviates less in its pathology and symptoms. He contends also that, unless the blood in the abdominal or pelvic cavity be encysted, the term hæmatocele should be withheld, there being, strictly speaking, no blood-tumour, and it should be called only an internal hæmorrhage. To this contention, however, I think no surgeon will consent. The peritoneal reaction against blood is feeble; women may have their abdominal cavities half full of blood for years without its becoming encysted; and when there is a cyst-wall, it is of the softest and most yielding consistence, and is probably broken up whenever there is a fresh effusion of blood. A thick-walled cyst, with a new membrane, such as occurs where pus has escaped into the peritoneum without causing general peritonitis, is only found when the blood has become foetid. Whether encysted or free in the abdominal cavity, if the blood have long accumulated and evidently proceed either from the ovaries or the tubes, there is only one disease with one history; and, as similar treatment is required, the benefit of setting up two names is not apparent. But, when the internal hæmorrhage has been due to the rupture of a tube in extra-uterine pregnancy, there is no advantage in classing this hæmorrhage with pelvic hæmatocele, though in many respects the conditions are similar. A more common mistake, it appears to me, consists in calling all pelvic hæmatoceles cases of tubal pregnancy with rupture; and no case ought to be admitted as tubal pregnancy unless a fetus be found. It is quite true that the fetus may have become disintegrated, or may have escaped into the abdominal cavity or uterus; but such disintegration or escape must not be imagined in every case. Judging from my experience in fifteen cases of hæmatocele, I would say that, in general, both Fallopian tubes are greatly distended with thick black blood, and that a large soft clot, which has evidently been discharged from an ovarian hæmatocyst, or an obvious corpus luteum, half an inch or more in diameter, which has become loosened, is grasped by the pavilion. When the tube is cut open, its mucous membrane is black and succulent, and often half an inch thick, and its muscular coat is also hypertrophied. In the ovaries, there are generally one or more large blood-cysts, but sometimes they have ruptured before operation, and only their loose collapsed walls remain. In other cases, the cysts containing fluid blood are small and numerous, and the chief pathological changes are in the tubes, which are invariably distended and diseased. The blood in the abdominal cavity may rise higher than the navel, or may be only in the pelvic cavity. It is exactly like what is found in the tubes; when thick oval gritty masses of black fibrin are felt in the tubes, there are similar thick masses in the pelvis, and the tubal mass may project into the pelvic cavity; when the tubal blood is fluid, it is also fluid as it is baled out of the peritoneum; and when it is foetid in one locality, it is foetid in the other.

There can be little doubt, therefore, as to the source of the hæmorrhage, but it is a question whether this includes the whole of the pathology. When normal blood is injected into the peritoneal cavity of a healthy animal, and when it oozes into the abdomen from separated adhesions, after laparotomy, it is gradually absorbed. What remains to be explained is, why the blood in pelvic hæmatocele is not absorbed as fast as it is poured out. Early writers ascribed hæmatocele to sweating of blood from the pelvic peritoneum, the disease being thought a form of purpura hæmorrhagica, and the absence of absorption excited no surprise; but evidence of the purpuric state was never forthcoming, and this theory was finally rejected. Virchow has suggested that the initial stage is pelvi-peritonitis, with formation of a velvety new membrane from the easily ruptured vessels, from which blood escapes during menstrual congestion; and his name and fame have caused this theory to become widely accepted. It may be true that absorption fails because chronic peritonitis is set up; but that the hæmorrhage is due to this so-called pachy-pelvi-peritonitis, as Friedreich, Besnier, and Bernutz maintain, is amply disproved by the fact that, once tubes and ovaries have been removed, internal hæmorrhage never recurs, though menstruation eventually becomes re-established. And, further, this pachy-pelvi-peritonitis is only another name for encystment of the hæmorrhage a condition which is often absent.

I have had only one opportunity of making a *post mortem* examination of the pelvis. It was the case of a patient whose tubes and ovaries I had removed for pelvic hæmatocele, last July. She had made an easy recovery, as they all do, and was sitting up. I was absent from town, but had received a telegram, saying all my patients were well. When I returned, late in the afternoon, the woman was dead. It appeared that, a bee having flown in at the open window of the ward, the nurse in charge gave chase with a towel, over beds and chairs. The peals of laughter from the unfortunate patient, who was very stout and had a dilated heart, were heard all over the hospital, and orders were sent that the noise must cease. Soon afterwards, the patient took her dinner, of soup and rice-pudding; half an hour later, she complained of an agonising pain in her chest, and in an hour she was dead. There was no fresh effusion of blood in the pelvis, and no peritonitis; there was not even a clot in the heart, and her death can only be set down to cardiac failure, consequent upon her titanic laughter.

That some absorption takes place, is shown by the constant elevation of temperature and pulse when the blood is foetid, and by the fact that the abdominal dulness on percussion varies slightly from week to week. The simplest explanation is, that the lymphatics of the peritoneum gradually become choked; and those who have seen the density and toughness of the fibrinous masses, almost as hard as brickbats, that collect within the abdominal cavity, will not wonder that life is too short for their complete absorption. Whether the disease commences in hyperæmia of the ovaries, as Récamier and Nélaton believed, or whether the discharge of pathological blood-cysts and loosened corpora lutea is secondary to hyperæmia of the tubes, it is not easy to determine; but certainly the changes in the gland and its duct include the whole of the pathology. I have several times, on account of prolonged menstrual trouble, removed tubes that were dilated with blood, and ovaries in which were small blood-cysts, where there was no hæmorrhagic effusion into the peritoneum; and such cases may fairly be described as in the preliminary stage of pelvic hæmatocele; but I have never seen the primary pachy-peritonitis, which has been assumed by Bernutz as a cause of the disease.

It is difficult to estimate the frequency of pelvic hæmatocele. Bernutz says that sometimes he met with not more than two cases, and often with none at all, in the course of a year's service at La Pitié and La Charité. Some years ago, on the other hand, a metropolitan gynæcologist, fired with the importance of the subject, announced to an astonished though learned society, that he had met with fifty cases within a few months; he had verified none of them by abdominal section, and there can be little doubt that he had confused many varieties of pelvic disease. Seeing as I do, in the special hospital of a large seaport town, a very considerable proportion of the poor population who are supposed to have some disease of the womb, I do not find pelvic hæmatocele to be a common ailment. Its chief symptoms are prolonged metrorrhagia, backache, and profound anæmia. When a woman comes with a tale that her courses last from two to nine or ten weeks, and I find an obscurely fluctuating mass, or two such masses, behind the uterus, I suspect pelvic hæmatocele; and if there be dulness as well as pain on percussion above the pubes, the diagnosis is strengthened. If her menstrual period have previously been missed once, twice, or thrice, tubal pregnancy is possible; and if there be a mass distinctly on one side only of the uterus, and the breasts have contained milk, the diagnosis is almost complete. When there is a history of long continued pain, I always advise operation; for I do not expect to succeed with medical treatment when others have failed. If the temperature be high, from 100° to 104° Fahr., one may be pretty confident that the blood is foetid, and that the need of operation is urgent; but in such cases the diagnosis between a small hæmatocele and pyosalpinx is not easy. To mistake hæmatocele for pelvic cellulitis is a common error; but, never having seen retro-uterine cellulitis, I do not believe in its existence. Aspiration *per vaginam* is not only useless but dangerous, owing to the risk of sepsis. If the needle chance to enter one tube, it misses the other, and the abdominal cavity; if it enter the abdominal cavity, it misses both tubes; and, even if all the dense clots could be withdrawn, the cure would be only temporary. Opening the abdominal cavity, and draining the accumulated blood, is open to like objections, and I am surprised to find this method adopted. The only treatment by which a cure of the disease can be insured is laparotomy, with removal of the uterine appendages. In appearance, it is rather a formidable operation; a pint or more of dark treacly blood, with much fibrinous clot, has to be removed from the abdominal cavity by the hands and sponges, and the distended tubes and ovaries have to be drawn out at the site of incision, the base tied, and the organs removed. The Staffordshire knot, which is often so convenient, is un-

safe in these cases, for the silk is apt to cut through the succulent broad ligaments and cause hæmorrhage. But the operation is safer than it looks; there is no need to seek out bleeding points and tie them, packing with sponges, and the subsequent use of a drainage-tube (which may be safely withdrawn in twenty-four hours) being all that is necessary. There is very little reaction, and complete restoration to health is a matter of two or three weeks.

RUPTURE OF THE PERINÆUM: PERINEORRAPHY.

By A. WYNN WILLIAMS, M.D.,
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SEVERAL communications have appeared on the above subject of late in the pages of the JOURNAL, which, in my opinion, are somewhat perplexing. As it was I who introduced the operation as now performed at the Dorset House Branch of the Samaritan Hospital, I may perhaps be permitted to give a correct description of it. The operation was first performed by me in the year 1881, then one of the acting medical staff, and proved to be so successful that it was adopted by all my colleagues; and I believe I am correct in stating that, since then, no other operation for a like purpose has been performed in that institution. From the perusal of the various letters in the JOURNAL by Dr. Percy Boulton and others, it would appear that he (Dr. Boulton) considers the operation introduced by me, and as now performed by him, to be identical with that of Dr. Langenbeck; others, again, have said that Mr. Pridgin Teale performed a similar operation, also the late Sir James Simpson. At the most, these were only isolated cases. I maintain that there is a marked difference both in the commencement and in the completion of the operation, as performed by Dr. Langenbeck, etc., and myself. One gentleman stated that he had actually seen Dr. Emmet, of New York, perform a similar operation. When Dr. Emmet was in London, he very kindly came to my house with a friend; and, after hearing my description and examining a drawing which I had had taken by the late Dr. Westmacott, who assisted me in several private cases, Dr. Emmet at once said that the operation was entirely different from his, and that he had never seen a description of it. He explained his operation as consisting in the removal of a semilunar portion of the floor of the vagina, and stitching the cut edges together. He, or his friend, whose name I forget, made the remark, "How singular it is that there should be so much jealousy amongst the members of the medical profession in London!"

The operation, as performed by myself (a description of which will be found in the JOURNAL, under the head of Displacements of the Uterus, a paper read by me at the annual meeting of the British Medical Association at Liverpool), I will again attempt to describe; and will probably, with the aid of the woodcut, succeed in doing so.

The patient is placed on her back, the knees and thighs flexed and kept separate by means of an iron bar with knee-straps, and another round the neck and buckled at both ends to the bar—I believe the invention of Dr. Routh. By this means, the patient is kept perfectly immovable. An anæsthetic having been administered, the labia being held aside by an assistant, a horizontal incision is made on one side of the vulva, where the original fourchette commenced, nearly an inch in length. Thence a longitudinal incision along the edge of the vulva is made, and the mucous membrane is carefully dissected off to the full extent of the rupture. The same process is then gone through on the opposite side, and the mucous membrane is dissected back and removed with a pair of scissors. The edges of the fissure in the rectum are then vivified, care being taken at the same time to lay bare the ends of the ruptured sphincter ani, if ruptured; indeed, it is often advisable to cut through the sphincter ani.

The next step is to make two linear incisions on each side of the floor of the perinæum to the extent of an inch or more, as required. Then, with much care, the fingers being in the rectum, a slight incision is made in the ruptured and puckered end of the perineal body (ably described by Dr. Savage). This body is then seized with a pair of forceps by the assistant, and put on the stretch; while its separation from the floor of the perinæum is continued to the extent of the two lateral incisions. This is most easily done either by the handle of the scalpel, or even with the fingers.

The cutting portion of the operation being now completed, the requisite number of silkworm-gut sutures are inserted, and the fissure in the rectum closed; the ends of the sutures, cut short, being left in

the rectum. The perineal body or flap is then put on the stretch, and, if possible, brought up as high as the first horizontal incisions in the vulva. A long curved needle, with handle, is then passed through the external integument, care being taken to bring the point of the needle through the vivified portion internally, then through and across the vivified portion of the extended perineal body, and out again in like manner on the opposite side; care being taken that the point of the needle should at no time pierce the mucous membrane. The first suture of strong silver wire is inserted a little above the anus. Two more will generally be found sufficient. The last suture is one of silkworm-gut, and is introduced by means of a long slightly curved needle. The point is first inserted through the vivified end of the sphincter ani on the left side; then through the perineal body, and back again through the sphincter ani on the right side, and for the present left loose. The silver wire sutures are then tightened and twisted; and, lastly, the assistant introduces his finger into the vagina, and presses the perineal body firmly against the rectum, whilst the ligature passed through the ends of the sphincter ani is tied. If necessary, one or more superficial gut sutures may be inserted between or above the wires. A pad of lint, dipped in a weak solution of iodine, is then applied, and retained in position by a T-bandage.

In what does this operation differ from that of Dr. Langenbeck? In the first place, Dr. Langenbeck commenced his operation by the vivisection of the "spur" to the extent of five lines, intended to form a flap to lie on or over the rupture in the perinæum, and fixed down by two or three sutures on each side; then sutures are inserted into the fissured rectum, and drawn tight.

In the operation as performed by myself, I commence at the anterior and upper portion of the vagina, carry the vivisection right down to the end of the fissure, separate the perineal body from the floor of the vagina, put it on the stretch until it reaches the whole length of the vivisected parts; pass the sutures through the labia and it, as also the sphincter ani. Thus the perineal body is fixed on the ruptured perinæum, and between the vivisected labia; thus not only "preventing the fluids from coming into contact with the newly united parts," but giving a solid and firm support to the whole vagina, and also, by shortening the floor of the vagina, tending to draw the uterus upwards.

In cases of prolapsus with or without rupture, this operation, or, rather, the stitching the perineal body between the labia, gives such a firm support, that I have never failed to retain the uterus within the vagina, either without or with some kind of pessary. An India rubber ring, made with a watch-spring, I prefer.

The late Dr. Marion Sims witnessed me operate on a patient for complete prolapsus, who had been unsuccessfully operated on twenty-four years previously. Dr. Sims appeared rather sceptical as to the utility of the operation, stating he had never seen a similar operation performed, and would like to know the result. With the assistance of a ring, she lives in comfort. As to Mr. Tait's operation, not