

ART. XI.—*Some Observations on Rupture of the Uterus, with Cases.* By EDWARD WILLIAM MURPHY, A. M., M. B., Assistant, Lying-in Hospital.

THE formidable nature of rupture of the uterus, as well as the melancholy result which is generally consequent upon it, is sufficient to render it a subject of the highest importance to the practitioner in midwifery, and perhaps will be considered a sufficient apology for bringing forward opinions, which though possibly considered speculative, may be borne out by the experience of others, or at least may lead to a useful investigation.

It must excite surprise that the appalling nature of this accident did not sufficiently command the attention of the earlier and some of them highly distinguished writers in midwifery. One would scarcely suppose that a proper investigation of it would escape the vigilance of Wm. Hunter, or fail to attract the attention of the experienced Denman. But when we find both advocating as a principle non-interference, we can readily perceive how completely they supposed an occurrence so fatal to be beyond the reach of art, and consequently, from its very hopelessness, to be unworthy of attention. It is true, the latter seems to hesitate, and therefore, contradicts himself. In his essay, after very laboured reasoning, he arrives at the conclusion, "that when the uterus is ruptured in the time of labour, that both reason and experience show that the patient has a better chance of recovering by resigning the case to the natural efforts of the constitution, than by any operation or interposition of art. That if those deductions be legal, and this conclusion just in cases of ruptured uterus, it will follow, *a fortiori*, that in laceration of the vagina the patient ought not for that reason to be delivered by art." After this aphorism, in his introduction he again states, "that there is little chance of any one surviving a rupture of the uterus. It therefore *might be doubted* whether it were our duty, hopeless as the case may be and really is, to pass the hand into the uterus, to turn and deliver

by the feet, or with the forceps, or in any way the case would allow." His vacillating opinion at length seems to have been confirmed in favour of interference by the case of Dr. A. Douglass. On this case he observes, "if no other case had been recorded, this would be sufficient authority to render *it our duty* to attempt without delay to deliver the patient, and had her chance would be, to be strenuous in all the means which art dictates, to extricate her if possible from her imminent danger, and preserve the child."

A practitioner of such eminence speaking so doubtfully on one of the most essential points in practice, that of immediate interference, sufficiently proves how little was known concerning the accident, and the slight attention it received; the cause which maintained such ignorance may perhaps be readily suggested. The profession, influenced by such high authorities in the belief that nothing could be done, and that the patient was to be left to her fate, were little anxious to publish the details, and in this way many cases were altogether lost. At length unexpected recoveries gave an opportunity to publish the skill of some fortunate obstetrician; it then began to receive some consideration; even unsuccessful cases ventured before the public; and within the last few years several cases have been brought forward, (some of them instances of recovery,) which serve to throw a clearer light upon the subject, and to give the accoucheur some guide in his researches.

The causes of ruptured uterus have been variously enumerated. They are chiefly stated to be mechanical impediments in the progress of the presentation, viz. too great rigidity of the os tincæ; disproportions in the brim, cavity, and outlet of the pelvis; the linea ileo-pectinea being too sharp; the promontory of the sacrum too projecting, &c. &c. A bad position of the head, or the bones too unyielding, by which a portion of the uterus, compressed between two hard substances, is either cut, or the force of uterine action in place of dilating the os tincæ reacts upon the compressed portion as a fixed point,

and thereby lacerates it: mental agitation, frights, the projecting limbs of the child, and its too violent motions. All have been mentioned as producing it. Such an enumeration appears evidently too loose and indefinite, rather betraying an anxiety to state all kinds of causes, even the most opposite, than a disposition to investigate carefully such as most generally lead to this untoward result. The objection would be immaterial, but that the mind of the practitioner is often unjustly haunted by his fears of rupture when these causes exist, and under such apprehension may be prompted needlessly to interfere, and show an anxiety to display an adroit but ill-timed manipulation, rather than to exercise that caution and forbearance which often best proves the judgment of the accoucheur. In all cases of tedious or difficult labours (which in proportion to those of rupture are comparatively frequent) some one of these causes are generally found to exist. If then the labour be prolonged beyond the usual period, (say twenty-four hours,) the attendant becomes alarmed; he dreads the probable effect of every successive pain, and anxiously watches for the first symptom which is described as premonitory, to justify his interference; with these the patient no doubt will supply him, and in her distress will describe her pains precisely as she is asked, whether it be a tearing sensation, or cramps in the abdomen, or any other of those sensations described as preceding it. Thus, in a case where nature may be quite competent to effect her purposes, the delivery is hastened, and he is fortunate if he does not produce the very accident he was so anxious to avoid, or leave the passages in that state which will render his patient ever after miserable. These causes occur in as many cases where rupture never takes place as where it does, and therefore cannot be considered adequate to explain the effect. Mechanical impediments are the constant source of difficulty in labours with first children, and yet in such cases rupture very seldom happens. Again, if mechanical obstacles be adequate causes of rupture, it at once leads to the question, why

is not rupture of the uterus more frequent? Ought not its frequency bear a reasonably fair proportion to the frequency of its cause? And yet every practitioner must be aware how often the uterus is exposed for hours to the influence of an irregular pelvis, a rigid os tincæ, or a bad position of the head, even where the child's life has fallen a sacrifice to its action, and yet the uterus has escaped uninjured, not a single unfavourable consequence following such a labour. On the other hand, (as in some of the cases detailed,) after a labour of no unusual length; where every thing appears to proceed favourably, the attendant in momentary expectation of a successful issue, the uterus will give way, and all the alarming symptoms of rupture present themselves when least expected. It is true, that in such a case some one of the causes stated may be found to exist; nor do I mean to deny altogether their influence, but they appear to me to act in many, perhaps the majority of cases, as secondary, rather than primary. I would distinguish between their effect on the *perfectly healthy uterus*, and when its structure is *previously altered*. In the former mechanical difficulties are seldom followed by rupture, but in the latter instance they may readily produce it.

The pathological state of the uterus appears not as yet to receive a sufficient attention in reference to this accident; but it is probable that those researches, which are now only in their commencement, may elucidate this class of causes. Many states of the uterus have been already described, to some of which rupture of the uterus may be distinctly traced; with others, however, it is not so evident, and yet occurring as it does so much more frequently with those who have had many children, previous difficult labours, or where instruments have been used, we are led to suspect some morbid lesion consequent on previous irritation. In some of the cases given I have rather assumed than proved such a change; in others, however, there was no obscurity. The uterus was either softened in its structure, or there was a distinct thinning of its parietes.

That a slight cause will produce laceration where the uterus is in this softened state, we may learn from some cases which have been published.

Mr. Else (*Med. Gazette*, vol. ii. p. 400) gives a case of ruptured uterus at the time of quickening. Mrs. —, ætat. 20, had been married fifteen months, and until the time of conception had enjoyed tolerable health; but since that time suffered considerably from a deep-seated pain in the back and uterine region, together with symptoms threatening abortion. Before her marriage, and up to the time of conception, she had experienced an unusual degree of pain at each menstrual period, the catamenia being scanty. Her death seems to have been accelerated by an excursion to Greenwich with her husband, as shortly afterwards she was attacked by vomiting and syncope, and died in an hour. On examination after death, a rent five inches in length was found extending up from the cervix towards the anterior part of the uterus, through a portion of the placenta; the uterus was covered *with dark coloured spots, and easily lacerable*; the ovaries were diseased, one containing hydatids, the other the same dark-coloured spots as the uterus.

Dr. Sparks (*Med. Gazette*, vol. iii. p. 218) gives a case where rupture occurred apparently from a fall on the hands and knees.

A small, pale, sickly looking woman, mother of three children, her health generally bad, fell on her hands and knees, (on Oct. 15th), and at the time said she felt a distinct tearing and giving way on the inside, with a slight sanguineous discharge from the vagina. During the three following days she was restless and irritable, from an indescribable feeling of weight in the abdomen, but had no pain. On the 19th, slight uterine pains began, and continued to the 22nd; the abdomen being extremely tender on pressure. On examination, per vaginam, the lower extremities, placenta, and cord only were found in the uterus, the head and body having passed into the abdomen.

When the child was extracted it was dead and putrid. She died five hours after.

Post mortem examination.—Intense inflammation of the abdomen. The uterus of the common size; the whole fundus, posterior, and left lateral portion as firm and thick as usual; all the right dark-looking and relaxed, as thin as a sixpence in places, and transparent. A fissure, three and a half inches in extent, with ragged and sloughy edges, ran perpendicularly through its cervix, which appeared to retain its usual texture. Above the commencement, and to some extent on each side the fissure, *there were several patches of diseased structure*; the whole doubtless indicating morbid action of long continuance.

Dr. Ramsbotham, in his *Observations*, gives a case of "awfully sudden death in the last month of pregnancy," which resembles those cases in many respects, though the existence of laceration is not stated. A lady, *ætat.* 20, apparently in good health, and in the midst of social enjoyment, became suddenly faint, and in a few minutes expired. The next morning the body was examined, but evidently under restraint, (being in the presence of a relative). On dividing the abdominal parietes, the gravid uterus presented itself to view, but very different as to its aspect from what is generally met with. The whole fore-part of the fundus and some portion of the back part of the uterus was completely black, not unlike the appearance upon the skin of a woman after the infliction of a severe blow. The fallopian tubes were turgid and black, the ovaries of a natural size, but they had a striated or speckled appearance, somewhat like mottled soap. Upon making an incision into the peritoneal coat of the uterus, at its back part, where the black or suffused appearance was most obvious, fluid blood freely followed the knife. The cause of this hæmorrhage is not stated; but it is probable that this is only a greater extent of congestion, in softened structure, which in the preceding cases were in detached spots. These are extreme cases, but they sufficiently prove that a much slighter degree of disorganization would yield to very moderate uterine action.

It may be well to contrast these with cases recorded, in which the healthy uterus shewed an extraordinary power of resisting violence. In *Med. Chir. Transactions*, vol. xii., a case is given, in which a pregnant woman had been run over by a cart wheel; she expired immediately, and on examination after death, the uterus was found uninjured. Dr. Campbell, in a lecture on this subject, published in the 15th vol. of the *Lancet*, p. 33, states a case in which a woman in the last month of pregnancy received a severe kick from her husband in the centre of the abdomen, so as to cause a partial separation of the placenta. She died of inflammation on the third day. The uterus was perfect. These cases must also be considered as exceptions on the opposite side, but still they prove a remarkable power of resistance in the uterus, a power which we find equally manifested when it first assumes the parturient action under all the disadvantages of disproportion of parts. Of those lesions which have been described, the results of inflammation afford many to which rupture might be attributed. It occasionally attacks the unimpregnated uterus, and may be followed by partial induration. Ulcers have been found in the neck, which if healed would leave a loss of substance; small abscesses sometimes occur in its parietes. Softening of tubercles produces a similar effect. All these, if the uterus be restored to its functions, must impair its strength, and place it in a condition to be lacerated, without any very violent or long continued labour. At the period of parturition also, inflammation occurring will terminate in ulceration, gangrene softening. The latter changes are not, however, involved in the same obscurity as the former, at least the symptoms of the preceding inflammation are sufficiently evident to place the accoucheur on his guard, and to enable him to use means to counteract them, and those consequences which might follow from them. But of the former states of the uterus we can have no previous notice, nor is it until the uterus gives way in the unexpected manner it sometimes does, without any thing in the proportions of the pelvis, or violence

of the pains, to excite apprehension, that we are led to suspect some such alteration. In some cases, which I have detailed, the post mortem examination did not afford any very satisfactory evidence of the cause, but the effects of inflammation, consequent on the injury, obscured very much the real state of the uterus, and with it any lesion which might produce a thinning of its parietes. (Cases No. 1, and 2.)

It may be at once objected to an inquiry into the pathological causes of ruptured uterus, that as its morbid condition cannot be known previously, it would lead to no practical results; it would not enable us to anticipate and to prevent such an occurrence. But I would ask, can we in general anticipate and prevent rupture of the uterus? Those symptoms, which are described as premonitory, appear to me exceedingly uncertain; and if we are guided by their existence, may as often lead us to create mischief as to avoid danger. In those cases I have met, there were no distinct premonitory symptoms, on the contrary, in some of them the pains were *weak*, the passages in a favourable condition, and the labour of moderate duration; no symptom appeared which would warrant interference in its progress, or which could be considered as a forerunner of the impending mischief: comparing these with cases of difficult labour, in which the pains are strong and vigorous, but the descent of the head very slow, the passages scarcely yielding to the power of the uterus, in which, in fact, if we were influenced by portending symptoms, we would watch with alarm every succeeding pain, if not instantly attempt a delivery. When I find that in such cases labour has been completed by the natural efforts, and with perfect safety, that their recovery has been surprisingly favourable, I am naturally led to place in premonitory symptoms but little confidence. On the other hand, it appears highly important correctly to appreciate the powers of the healthy uterus; and a closer investigation of the different states in which it is found might lead us to the conclusion, that if it be unable to resist

the efforts of its own action, still less is it able to resist the violence often attendant on the use of instruments, and that in this respect the chances of *prevention* are at least equal. I cannot help quoting a passage from Baudeloque, which accords with this view of the subject. After stating those symptoms, which Levret and others gave as previous symptoms, he proceeds: " Mais ces symptomes sont trop incertains pour que nous puissions les prendre pour regle. La rupture de la matrice a en lien nombré de fois sans être précédée d'aucun d'eux et ne s'est pas fait en d'autres cas ou leur reunion sembloit annoncer *qu'elle étoit inevitable*. En les prenant pour guides souvent ou empietroit sur les droits de la nature, ou entraverait sa marche en operant un accouchement qu'elle auroit pu terminer sans inconveniens *ou avec beaucoup moins que nous ne l'eussions fait nousmemes* et l'on ne pourroit se flatter en aucun cas d'avoir prevenu la rupture dont il s'agit."

In this point of view, then, an inquiry into its pathological condition is of practical utility, if it teach the practitioner caution in infringing on nature's province, and warn him from meddling too precipitately with her operations. It may also free him from the unjust imputation, that an earlier interference would have saved his patient, if he was unfortunate enough to meet with a case of this melancholy description. I cannot agree with the observations of Mr. Burns on this point, as I think them calculated (though perhaps unintentionally) to lead to this very evil. After giving very judicious directions as to the general means which should be adopted to meet and check unfavorable symptoms, he concludes: " And finally, when the pelvis is contracted, and there is any symptom indicating *risk* of laceration taking place, (viz. severe local pains, with a very acute tearing sensation, pains violent and frequent, which usually do not produce a great effect on the os uteri, which is *often very rigid*,) the forceps are instantly to be employed, for where such symptoms exist in any case, where the forceps are applicable, it would be criminal to delay. In more urgent cases the perforator is justi-

fiable." The forceps cannot be employed with a very rigid os tinæ; (*vide* 2nd rule, p. 437;) we are, therefore, left to the perforator, in the case supposed. Am I to understand, then, that the existence of these symptoms, with a contracted pelvis, justifies the use of that instrument. The degree of contraction is not stated; we are not, therefore, to suppose a case of *extreme disproportion*, but the average degree of irregularity met with in the pelvis, whether in the brim or the outlet, judging from the frequency of such instances in cases of difficult labour, in which the patient will describe her pain exactly as stated, I fear that if such a rule were to be acted upon, a great deal of unnecessary mischief would be committed, and the number of cases in which rupture was stated to have been *prevented*, would far exceed the average proportion, which cases where this accident occurs bear in general. If premonitory symptoms be of any use, it is in those cases in which a morbid alteration in the parietes of the uterus might be assumed; as for instance, where a contracted pelvis has rendered the previous labours difficult, and we would dread exposing a uterus, perhaps already impaired, to the effects of violent, but ineffectual, efforts at expulsion. Here the symptoms Mr. Burns details, would be a useful warning of the threatened danger, and we would be justified in acting upon them; but I object altogether to the applying a rule founded on a particular kind of case, to cases of contracted pelvis generally.

A knowledge of those morbid lesions, which may give rise to rupture of the uterus, appears to be valuable in this, that it will enable us to distinguish between cases of an apparently similar character, but in which interference might be either highly judicious, or positively mischievous. It may teach us also, not to consider the favourable progress of labour, or the absence of premonitory symptoms, as a security against danger, if there be anything in the previous history of the patient to excite a suspicion, as to the healthy condition of the uterus. But above all it is useful, if it save the accoucheur from the

unjust charge of ignorance or supineness in preventing an accident which no possible foresight could anticipate.

For the sake of clearness, I have arranged the cases as much as possible according to their morbid appearances. With some, I am free to admit, the direct pathological cause could not be ascertained, at the same time it must be observed, that the effects of inflammation, consequent on the injury, altered very much the condition of the uterus, and veiled its previous lesions in obscurity. In others, however, the process of softening, and its effect in causing laceration, was apparent. In one case of contracted pelvis, (Case 3,) the effect in producing partial atrophy, and consequent rupture, was readily traced; in another, gangrene, the result of neglected inflammation, (Case 8,) was observed.

Before entering on those different appearances, it may be necessary to state briefly the condition of the healthy uterus after parturition. Its size varies with the time it is examined. Within the first week or ten days, it remains above the pelvis. Its peritoneal surface has the usual shining pearl-coloured appearance of that membrane, it is firm and elastic, its section resembling that of the prostate gland; its internal surface is red and generally covered with loose coagula. At the attachment of the placenta, a number of small clots filling the open mouths of the sinuses, give it an irregular appearance presenting a raised granular surface. The fibrous arrangement of its proper structure can generally be observed through a thin albuminous layer, which may be scraped off with a scalpel. The lip of the os tincæ is irregular, livid, and occasionally puckered from fissures occurring in its margin. In the inflamed uterus the albuminous layer is increased in thickness, and becomes granular, it assumes every variety of shade from ash-gray to green, the surface looking rough, irregular, and mottled. The lymph shed on the peritoneum has the same variety of colour. When this inflammation is consequent on rupture, and a quantity of blood is effused into the abdomen, the shade of green is deepened in the

neighbourhood of the coagula, the lacerated portion is also infiltrated with blood, making the edges dark and livid; this it is necessary to distinguish from the black, ragged, and easily broken margin of softened structure. To the feel the uterus is firm, often remarkably so, but occasionally its exterior is doughy, and will retain the impression of the fingers. Such were the appearances, some of the cases I am about to detail presented, especially those who longest survived the injury; with such as lived but a short time, and that inflammation only had commenced, they were not of course so distinct. The first case I met with was a remarkable instance of the process of reparation, she lived longer than any of the others, and after death the rupture was found perfectly closed.

CASE I.—Anne Temple, *ætat.* 21, a healthy looking young woman, was admitted into the Lying-in Hospital, in labour of her third child. Her previous labours were reported to be favourable, and the present time, April 23rd, 1833, the *os tincæ* was found soft and dilatable, the head presenting with face to pubis, her pains lively. At the end of ten hours, the *os uteri* was fully dilated, head pressing, the waters being discharged; when she suddenly screamed and complained of an excruciating pain, unlike any she had suffered; the pain soon ceased, and all the symptoms of rupture appeared; great restlessness; hurried respiration; indistinct pulse, and a peculiarly anxious expression of countenance. She vomited nothing but bile and mucus, mixed with saliva. The foetal heart had been previously heard, it was now inaudible; she was immediately delivered by the crotchet, without much difficulty; a discharge of blood followed the expulsion of the head. The placenta was immediately withdrawn, and the hand again passed up to prevent any hernia of the intestines; a large transverse rent was found at the anterior part of the cervix uteri. She became quite faint, and the abdomen extremely tender and tympanitic. A large opiate was given in effervescence, which quieted her stomach, and procured sleep for about four hours; she was refreshed, her

countenance resumed its natural appearance ; pulse 120, weak, and unsteady ; tongue clean ; abdomen painful if pressed. She was placed under a mercurial treatment, with the frequent application of leeches, fomentations, and warm bath ; cal. gr. x. being given previously, as a purgative, to be followed by an oil draught. The tenderness of the abdomen became less ; pulse diminished in frequency, 98, but the bowels were not moved ; emollient enemata were given in addition, and she passed several serous evacuations. On the 28th, her gums became affected, the stools then were more feculent ; the abdomen was softer ; pulse 120 ; she was altogether freer from distress ; however, diarrhœa came on, accompanied with bilious vomiting. Mercury was immediately omitted, and opium, bark, cold chicken broth were given, and as she was much weakened, wine, ammonia, and other stimulants, were added. The diarrhœa received a temporary check with a most marked improvement in the symptoms : pulse 114, full ; tongue more natural ; abdomen free from pain and diminishing in size ; it again returned with uncontrollable severity, and she died May 4th, being eleven days since the rupture.

Autopsy.—The peritoneum was generally adherent, the omentum and intestines being closely united by dark green coloured lymph, giving them a mottled surface. In the left iliac and lumbar regions, a large quantity of fibrous clots, mixed with bloody serum, surrounded the uterus. The bladder, uterus, and as much as could be of the pelvic peritoneum and vagina were taken out and examined. The anterior surface of the uterus, and posterior of the bladder, were united, by which the opening in the neck was closed. The internal surface of the uterus was mottled by the same green patches as the intestines, and at its anterior part the rent was seen about two inches and a half in extent, with a thick round edge, the lining membrane of the uterus seeming to pass into it. The surface of the bladder was greatly thickened, and of a dirty green colour. It seemed as if there had been a thinning of the uterus at the rent, and

that the margin had doubled back on itself. The remainder of the abdominal viscera were healthy.

In this case the labour lasted about ten hours, the pains were strong, but not violent, the head gradually advanced to the outlet, and though it presented unfavourably, there appeared every probability of a safe delivery, the pelvis being sufficiently roomy, the only explanation of the rupture then seems to be a partial atrophy of the uteru, but which could not be ascertained distinctly, the surfaces being so closely united by lymph.

CASE II.—Mary Gore, ætat. 36, a delicate looking woman, was admitted August 31st, 1833, in labour of her eleventh child; of these seven were premature, three were born living, in two of which animation was for some time suspended. September 1st, her labour commenced, preceded by two slight rigors, the os tinæ was thin and dilatable, with an abundant mucous discharge; in four hours the membranes protruded beyond the external parts, the pains *became weak*, and the membranes remained so for three hours, when they broke. A very intelligent pupil (Mr Long) was sitting beside her, waiting the return of stronger pains, to complete the delivery, when she complained suddenly of a sharp lancinating pain, as if, to use her own words, “a sword had passed through her groin.” Symptoms of exhaustion, with a cessation of the pains, immediately succeeded, and it was evident rupture had taken place; being an hour and a half after the waters were discharged. The head was found between the ischia presenting naturally. Delivery was first attempted with the forceps, which was found impracticable, the head was then lessened, and the child slowly removed, the uterus assisting the expulsion of the breech and lower extremities. The placenta being removed from the vagina, an extensive rent was found at the anterior part of the cervix uteri. She was immediately given an opiate, which quieted her stomach, and procured a calm for two hours, when retching again returned, with restlessness; the opiate was repeated in effervescence, and as she continued watchful and restless, a grain of solid opium was

afterwards added ; she had tolerable rest during the night ; pulse 96 ; tongue clean, and countenance improved : she complained of slight shooting pains through the abdomen. She was immediately placed under the same treatment as the last case.

Leeches to the abdomen. cal. gr. ii. c. opio gr. $\frac{1}{4}$ 2^{da}. q. q. hora, and emollient enemata, to act on the bowels.

The discharges were first serous, nor did they become feculent until the gums were salivated, which took place on the fourth. The tenderness of the abdomen then diminished, but great nausea, and soon vomiting came on accompanied with feculent diarrhoea. Mercury was omitted : she was ordered the following mixture :

℞ Infusi Menthæ ℥vi.
Pulv. Ovi testæ ℥iss.
Liq. sed. gutt. xx.

To take a table spoonful every hour.

The vomiting and purging continued uncontrolled, though an additional quantity of opium was given, and on the 7th, while passing a motion, some hæmorrhage took place from the vagina, after which there was a great change for the worse ; she gradually became weaker, passing involuntary motions, and a grass green fluid flowed from her mouth without effort. She died on the 8th, 9 o'clock P. M.

Autopsy.—On opening the abdomen, a large quantity of semi-coagulated blood covered the peritonium from the umbilicus over both iliac regions, but especially the right ; the omentum, stomach, and the intestines, were all united by recent adhesions. At the anterior part of the uterus, and nearly opposite the symphysis pubis, there was a transverse rent about three inches in length, which was quite apparent when an incision was made in the posterior parietes ; the uterus was filled with clots, and semi-fluid blood, in removing which some lymph had been detached from the margin of the rent. Whatever adhesion had been formed was so easily broken, and the effused blood, and coagula so completely surrounded the rupture, that it was im-

possible to ascertain the extent of union; the internal surface of the uterus was covered by a thick layer of ash-coloured lymph, which in the neighbourhood of the rupture assumed a deep green hue. The pelvis was under size, but not irregular; the symphysis pubis did not project unusually.

In this case there was no morbid lesion to explain the accident, and the cause of rupture must be left in obscurity; the diminished size of the pelvis offers no explanation; the head passed without difficulty to the outlet, enveloped in its membranes; the uterine action was weak, and when, after the waters escaped, and the pain in some degree returned, the uterus yielded at once to them; neither was there any unusual sharpness of the linea ileo-pectinea. It was, however, sufficiently apparent, that death was consequent on hæmorrhage, which occurred subsequently to the rupture.

CASE III.—Anne Freeman was admitted August 29th, 1834, in labour of her third child. The first was reported as being born living, the second was still-born. Her labour commenced at 8 o'clock, A. M., and continued during the day with strong steady pains, the waters broke towards evening, and the head soon became fixed at the brim; the os tincæ was dilated about three inches diameter. At 10, P. M., the uterus felt very hard, as if spasmodically contracted: she said she felt something give way, and her pains, which had been strong, were exchanged for a continued spasm, rendering her restless and uneasy; there was no discharge from the vagina, and her pulse was full, it soon however, became unsteady; respiration grew laboured, with a distressing sense of tightness across the chest. She was delivered by the crotchet, with much difficulty; the pelvis being narrow, and the uterus affording no assistance. A large opiate was administered in brandy, and again repeated in three hours; however, she did not recover from the constitutional shock, and died in about thirty hours after her delivery.

Autopsy.—Here we had the first stage of peritoneal inflammation, the whole surface of the intestines being red and vas-

cular, as well as the uterus; there were very slight adhesions. When the uterus was drawn out of the pelvis a circular opening was seen at the posterior part of the cervix, nearly opposite the promontory of the sacrum, which projected, the antero-posterior diameter not being more than three and a half inches, and from the rupture a circular patch extended a short way into the body of the uterus, much thinner than the remainder; there was no other morbid alteration in any of the viscera.

CASE IV.—Mary Kelly, *ætat.* 36, admitted August 3d, 1834, in labour of her tenth child, of whom five were still-born. The *os uteri* was soft and dilatable, and the pelvis seemed sufficiently roomy. At the end of eight hours the head descended to the ischia, and there remained, making a slight advance with each pain; however they became weaker, and matters remained thus for about four hours, when on examination, the abdomen was found tender on pressure; pulse frequent (120), and weak; the bones of the head overlapped, the tumour on the head having an œdematous crepitating feel; no foetal heart could be heard. She was delivered by the crotchet of a large child, the uterus assisting the expulsion of the body and lower extremities. In a quarter of an hour the placenta was removed; the uterus contracting to its usual size. She was given *tinct. opii. gutt. xl.*, which procured sleep for three hours, and then an enema, which acted once on her bowels; soon after she became restless, complained of the binder, which was immediately loosened. Her pulse rose to 140, weak and tremulous; countenance anxious; abdomen tender and tympanitic.

Tinct. Opii. gutt. xxx.

Spts. Ammon. Aromat. gutt. xxx.

Mist. Camph. ℥vi. was given immediately, to be repeated in two hours, if necessary.

She had some rest during the night, but towards morning she was seized with urgent retching. A grain of solid opium was given every second hour during the day, but without effect;

retching still continued, with restlessness; pulse continued very weak. She was evidently sinking, and died August 5th, at three o'clock, A. M.

Autopsy.—The intestines were crimsoned by the injected vessels; in some parts they were adherent, but the adhesions were slight. The uterus was rather pale at the fundus in comparison with the intestines. About the cervix lay some shreds of lymph, partly adherent, partly floating in some bloody serum. It had given way at the posterior part, leaving a circular opening, nearly the size of half a crown. The cervix was thin, but not softened. The body of the uterus had a soft, doughy feel; its internal surface was covered at the attachment of the placenta with loose coagula, the remainder with a layer of yellow granular-looking lymph; the antero-posterior diameter of the brim was four and a half inches, nor was there any unusual projection of the sacrum; the ischia were closer than natural.

In none of these four cases did the labour exceed twelve hours; in none were there any symptoms which could be considered premonitory. On the contrary, in Case 2, the unexpected way in which it occurred is remarkable; there could not be a more favourable labour, if we except the uterine action being weak; when it increased, after the waters were discharged, the uterus soon gave way. In Case 4, the symptoms even of rupture were obscure at first, nor was it until sometime after its occurrence that they appeared distinct. It will be seen, that the degree of contraction of the pelvis varied in each. In Case 3, there was the greatest narrowing at the brim, and of course the greatest mechanical difficulty to the passage of the child; yet the uterus did not yield until its parietes were thinned at that part opposite the projection of the sacrum. In Case 1, there was reason to suspect a similar change at the anterior part of the cervix; but the pelvis offered no obstacle to the descending head, except at the ischia, which though slight, in comparison with similar cases, was yet sufficient to cause

rupture of the uterus. Softening of the uterus was not met with in any of them, a lesion which gives rise to very different appearances. When softening takes place the uterus loses its elasticity, its parietes are easily torn, and afford but little resistance to the knife. The fibrous structure appears to soften sooner than the membranes; the peritoneum often remains entire, and is detached from the uterus, lying loosely between it and the bladder; or sometimes raised up by coagula, it forms a large dark-coloured sac, which occasionally bursts, effusing its contents into the abdomen; the fibres generally separate easily from any part of the uterus, but where they are lacerated the effused blood gives them a dark, ragged appearance. The lining membrane of the uterus communicates with the cavity sometimes by ulceration, (Case 6,) or the whole membrane over the cavity gives way, and forms one large opening. This condition of the uterus, being occasionally the result of inflammation, the distinction between it and gangrene is not easy. The general state of the uterus may be a guide. Softening is always a consequence of an unhealthy uterus, gangrene is not: gangrene is rather a local, softening a constitutional effect. Before gangrene takes place adhesion is formed, and lymph is effused in the surrounding tissues, which is not the case with softening; hence the liability of rupture is much greater in the latter than in the former instance. Direct pressure is a frequent cause of gangrene; and it is not at the time of labour, but subsequently, that its effects may be observed. When the slough separates, the uterus may be so thinned as to be lacerated in a future labour. The occasional instances in which the head of the child sloughs from pressure, (not where the tumour is formed, but in some other part in direct apposition with the pelvis,) without any apparent injury to the uterus, led me to this conclusion. It is not likely that pressure would produce gangrene and slough in the foetal head, and the uterus remain free from such an effect; there may be increased fetor in the discharges, a degree of irritative fever, with quick pulse

and furred tongue. These symptoms soon yield to treatment, but the cause still remains in obscurity. It is not until a subsequent labour that the effect may be known, (as in Case 8,) when these new formed parts, less prepared to resist the force of the uterus than the healthier fibre, give way; hence we find that rupture of the uterus seldom takes place with first children, notwithstanding all the causes which combine to retard delivery and render it difficult, and yet will occur in the same patient afterwards, although the difficulties are in a great degree diminished. But when softening becomes a consequence of inflammation occurring in the uterus during labour, the uterus will yield in the first instance. A case of this description seldom happens, because it either arises from extreme neglect on the part of the attendant, or from the imprudence and carelessness of the persons about the patient, who suffer these symptoms to proceed unchecked, and often increase them by the stimulants, which friends will not be persuaded to withhold. I have met with two cases (8 and 9) in which rupture occurred with first children; in one of which I had an opportunity of examining the uterus after death, and found it quite similar to the cases of softening I am about to detail.

CASE V.—*Rupture with softening.*

Elizabeth Dunne, aged 36, was admitted March 6, 1833, in labour of her tenth child. She did not appear to be at the full period; no foetal heart could be heard by the stethoscope; the os tincæ was found sufficiently open to admit the point of the finger, but she had no pains. She remained thus for nearly five days, when they commenced very weak; the os tincæ, however began to dilate. Ergot of rye was given without any effect, (3iss. in 3ss doses). After twelve hours, when the os tincæ was dilated to the size of a crown, her pulse became weak, and she complained of being faint. She was immediately delivered by the crotchet of a very putrid child, about the fifth month. There was no difficulty in the delivery; nor was there, excepting faintness, any unfavourable symptom. From this she re-

covered by the usual remedies; every thing seemed to go on well until the fourth day, when she complained of tenderness in the left iliac region. Her pulse was 100, weak and unsteady; tongue dry in the centre, with symptoms of low irritative fever; under these symptoms she sunk on the third day from attack, symptoms of debility prevailing from the commencement.

Autopsy.—The intestines were all united by adhesions which were easily separated; a quantity of sero-purulent fluid filled the abdomen; the ovaries were soft and mottled with black spots; the peritoneum was raised from the left side of the uterus, forming a large black tumour filled with coagula; the posterior parietes being divided, on the internal surface the cavity was plainly seen, surrounded with a ragged margin, being the remains of the anterior portion of the cervix, which was softened and lacerated; the body of the uterus had lost its elasticity. So far as the peritoneum is concerned, its appearances were similar to those met with in puerperal fever, but at that time there had not been a case of that description for three years previously in the hospital, nor was there any appearance of the epidemic until August, 1834, a year and three months after; neither had she any of the characteristic symptoms of the disease; the tenderness of the abdomen was slight, and did not continue. Besides, I know of no instance in which the structure of the uterus was thus altered by the fever, on the contrary, it generally is free from any change, except purulent infiltration.* I conclude, therefore, that the diseased state of the uterus gave rise to the constitutional symptoms which appeared, and that the gradual effusion of blood under the peritoneum from the ruptured sinuses caused the debility and ultimately the death of the patient.

* I since met a case of puerperal fever in which the uterus was quite flaccid from serous infiltration of its structure.

CASE VI.—*Rupture with softening: Face Presentation.*

Catherine Carthy, aged 30, was admitted November 18th, 1833, in labour of her fifth child. The face was found presenting; notwithstanding, her labour went on favourably; after fifteen hours, she was delivered of a living child without assistance. The face was far less disfigured than is generally met with in these presentations; while being skirted, she complained a good deal of its tightness, as well as of pain when the fundus uteri was pressed; there was no other symptom to attract notice. In the evening, however, her pulse was 130, quick, and rather weak; both iliac regions were tender on pressure; the following day the abdomen became tympanitic; countenance rather anxious; pulse the same; the lochial discharge continued, and was not offensive. On the 22nd, the symptoms of peritonitis were well marked; the abdomen very tender, and quite tympanitic; pulse small and incompressible; very much distressed from flatus; she had occasional vomiting of frothy mucus. 23rd; the pulse became very weak; she could not turn off her back; countenance very anxious, and jaundiced. She died on the 24th.

Autopsy.—On opening the abdomen, a quantity of blood, mixed with serum, escaped. The omentum and intestines were united by pretty firm adhesion. The peritoneum covering the uterus was thickened; on the left side of which a quantity of clots surrounded a rent of about three inches; this exposed a cavity containing coagula formed in the fibrous structure of the uterus, which communicated with the lining membrane by three openings, the largest about the size of a sixpence, and apparently the effect of ulceration.

It would seem that in this case some of the fibres of the uterus had given way at the time of labour, that blood was gradually poured from the ruptured vessels, until it formed a large tumour, which soon opened on the membranes, (the lining membrane perhaps first,) by ulceration. The inflamed peritoneum

giving way by a direct rent, and thus emptying its contents into the abdomen.

CASE VII.—*Rupture, with softening, in a contracted Pelvis.*

Bridget Fitzmorris, ætat. 26, was admitted February 14th, in labour of her sixth child, a girl. In 1826 she was delivered by the crotchet, of her first child, in the hospital. The second, by the natural efforts; third, forced delivery; fourth and fifth, natural. Her labour was strong from the time of admission, (2 o'clock, P. M.,) the waters had drained off, and in nine hours the os tinæ was almost fully dilated; the head was found resting very much on the pubis; in half an hour after, (11½ o'clock, P. M.,) without any sudden exclamation or complaint, the pains went off; pulse became rapid and weak; countenance anxious; respiration laboured; and the stomach discharged a dark-coloured fluid. The head was immediately lessened, the uterus still acting in the expulsion of the body and lower limbs. She was then given a large opiate, and afterwards cal. gr. x. p. jalapæ xv.; an active mercurial treatment was pursued, (cal. gr. iv. opii. gr. ½ 2da q. q. hora;) mercurial frictions; leeches to the abdomen. On the 15th, symptoms of peritonitis were very distinct; pulse small and incompressible, 120; abdomen tympanic. Leeches and stupes were repeated; contr. cal. c. opio. At the evening visit; pain of abdomen very acute, no remission in the symptoms; ʒxvj. of blood were taken from the arm, and the same treatment continued, with the addition of a warm-bath. She slept quietly for some hours, when the same symptoms returned with increased violence, and could not be controlled. She died the following morning.

Autopsy.—All the intestines highly injected, some adhesions, but very slight, some bloody serum was through them, and surrounded the uterus, the peritoneal surface of which was red and vascular. At its anterior part the peritoneum was raised from the uterus, and lay loosely between it and the bladder. At that part the neck had given way, and was softened in its structure, a cavity was formed in its substance, but emptied

of its contents, which passed into the abdomen through a rent in the peritoneum, two and a half inches in extent. The fundus uteri was soft and doughy, the fibrous structure easily peeling off. The liver was large and pale, the gall-bladder greatly distended with bile; the spleen was very soft; the ovaries were equally so, and mottled with dark spots; the antero-posterior diameter of the brim was three and a half inches.

This case is another instance of the changes which occur in the organization of the uterus, previous to laceration, even where the pelvis is contracted in its diameter; it also shows, from the children that had previously passed or were brought through such a pelvis, the degree of injury which the healthy uterus will bear, or rather the great power which it has of resisting injury when placed in unfavourable circumstances. In the cases which are just stated, the patients had several children before the accident happened. I have met one instance in which similar appearances to those mentioned were found to present themselves after rupture with a first child.

CASE VIII.—Judith M'Gaully, *ætat.* 30, was admitted May 30th, 1833, being sent in from the country, in a very neglected state. It was her first child; the length of time she had been in labour could not be ascertained. The waters were discharged; os tincæ dilated somewhat more than a crown-piece; the passages extremely hot and tender, and the bladder enormously distended with urine. The urine was immediately drawn off, and a turpentine enema administered. Her pains, which had been suspended, were renewed, causing her more than usual distress. The head, which was in the brim, made no advance with the pains, but remained fixed; her countenance was anxious; pulse 120. She could not remain quiet in any position, throwing herself about the bed, and asking for relief. She was delivered by the crotchet; a most offensive discharge, mixed with blood, flowed from the uterus; she soon vomited a dark-coloured fluid; pulse became weak, and countenance collapsed. A large opiate was given, which was repeated in two

hours. She dozed a little at intervals for a short time, but afterwards remained watchful; the abdomen swelled up very fast, and became very tender; the pulse continuing weak and unsteady, sometimes not easily felt. She died the following morning, about twenty-four hours after her delivery.

Autopsy.—The peritoneum was extensively inflamed in the first stage; the intestines highly injected, but scarcely any adhesion. The uterus was much inclined to the right side. On the opposite surface there was a broad patch, of a dusky green colour, quite soft; a little below this the peritoneum was raised up from the uterus into a black pyriform tumour containing coagula. On examining the internal surface, there was near the rent a similar green-coloured patch, but which extended up further than on the external surface. The uterus had given way at the anterior part of the cervix, very close to the vagina; and from this, as far as the dark green surface extended, the substance of the uterus was softened.

This case I at first considered to be gangrene of the uterus; nor was it until I met with those cases I have already related, in which I found appearances very nearly similar, that I was led to class them as the same. A name is, however, of little importance; the case sufficiently shows the effect of inflammation in preparing the uterus for rupture. Cases of this description are more frequent, I suspect, than is generally supposed. A woman dies some days after her delivery, apparently of peritoneal inflammation; no examination is made, or *sought for*, and the matter rests in obscurity, when perhaps all may have arisen from a neglected inflammation previous to her delivery. Such were the impressions the result of a case I afterwards met with produced.

CASE IX.—I was sent for (Jan. 4, 1834, 1 o'clock, A. M.) to see a poor woman (ætat. 46) in town, who had been attended by a midwife. She was in labour of her first child; what time she had been in labour I could not learn with accuracy, but I found her talking incoherently, rolling on the bed, and endeavouring

to walk about. Tongue was loaded; pulse 120, full and bounding; the os uteri dilated to the size of a sixpence, very rigid; the waters were reported as having been discharged twelve hours before. Her pains were (if I might use the expression) confused; they were of short continuance, but causing great distress; and in the intervals she still seemed to suffer, making it appear as if there was no remission. She was bled to ʒxx. , and given tart. antim. gr. $\frac{1}{2}$ every hour in solution, until nausea or vomiting was produced. 10 o'Clock, A. M., the same symptoms continued, the os tincæ not more dilated. A turpentine enema was then given; she was visited several times during that day, and though the incoherency had left her, and the pulse was less frequent, and softer, the os uteri did not yield in the least. The bleeding was repeated to ʒxvi. A bolus of cal. and jalap. was given, to be followed in three hours by an emollient enema (the first enema was not retained). The pains became weak during the night, but the following morning the os tincæ commenced its dilatation.

5th. The bowels not being moved, the enema was repeated, which procured several evacuations; her pains became more regular and efficient. After eight hours the os tincæ was open to the circumference of a breakfast-cup, the bones of the head felt loose, and the scalp œdematous. This confirmed the results of the stethoscope. The foetal heart was inaudible from the commencement, but the extreme difficulty of keeping the patient quiet rendered our examination uncertain. Pulse continued 120, but softer; tongue still loaded. She was delivered by the crotchet with great difficulty, the bones separating with the instrument. It was necessary to introduce the blunt-hook to assist the delivery of the superior extremity, and a very large and putrid child was extracted; the funis was quite putrid, and gave way at once. The placenta not coming away at the usual time, and no hemorrhage appearing, it was left for three hours, when it was expelled by steady and firm pressure on the fundus uteri. She was then given a bolus of cal. gr. vij. pulv.:

jalapæ gr. xv. to be followed in four hours by haust. infus. sennæ.

6th. Her bowels were moved freely during the night; pulse 120; tongue dry and furred; abdomen tender and tympanitic, but bears pressure; slight sordes about the teeth. The midwife having left her, little information could be obtained as to the state of the vagina. A chamomile infusion, which was directed to be frequently injected, we found had been all given as an enema. She became rapidly worse; symptoms of peritonitis more distinct; abdomen quite tympanitic and tender; pulse 120, very weak; tongue dry. These symptoms increased, and she died on the fourth day from her delivery. We could not obtain a post mortem examination.*

Comparing this with the preceding case, I was led to attribute death to the same cause, softening and rupture consequent on inflammation; however, I was given no opportunity of verifying or correcting my opinion. I can only offer it as one of, I fear too many instances, in which ignorance or neglect, perhaps both, combine to produce a succession of symptoms which may terminate in such a result. The first symptoms of inflammation are passed over; the state of the tongue and pulse are unheeded, (to an ignorant person they can give no information;); the tenderness of the abdomen is considered as arising from the pains, which being in a degree suspended by the presence of such symptoms, they presently are found to be weak and of short duration. Stimulants are given to increase them, and frequent examinations made as to the state of the os uteri. Thus matters proceed, until the presence of some unexpected symptom, perhaps delirium, or the unusual appearance of the patient, excites alarm, and assistance is sent for precisely at the time when it can be least available.

* I omitted to state in the last case, that during delivery an extremely offensive discharge flowed from the uterus, and that the placenta was broken with the least force, both of which took place in Case 5, the former in Case 8.

The symptoms denoting such inflammation are indeed premonitory, and it is the duty of the attendant to watch and to counteract them. If for this purpose general means are insufficient, he should seize the first favourable moment, which the circumstances of the case will admit, to deliver his patient. Here it would truly be (to use Mr. Burns' words) "criminal to delay;" but it is also obvious that rupture in such cases is only one of many fatal effects which neglect will produce, and to avoid which a decided practice is required; neither from the urgency of such cases can we argue the necessity of interfering by anticipation in general; what becomes promptitude in the one case, will often prove but precipitancy in the other.

Whatever difficulty there may be, in general, in ascertaining previous symptoms, those which mark the occurrence of rupture are sufficiently clear; the sudden change produced in the system is so manifest, that they can hardly be mistaken by the most careless observer. The peculiar ghastly expression of the countenance, the sudden sinking of the pulse, the cessation of the pains, the tender and tympanitic state of the abdomen, retching, and hurried respiration: all afford strong evidence of what has taken place. This rule, however, is not without its exceptions; cases are occasionally met with where the symptoms are very obscure, and are calculated to deceive. In Cases 4, 5, and 6, many of the leading and more striking symptoms were absent. A hurried pulse, an unusual degree of faintness, tenderness over the uterus, the absence of pains, is all that may excite suspicion; the patient may appear quite tranquil, and yet the same mischief take place as, in another case, would produce the most alarming symptoms. In two of the cases (5 and 6) I have mentioned the uterus was softened; in the 4th, the cervix was thinned. Perhaps we might assume that in these cases the uterus gave way gradually, and therefore with less shock to the constitution, rather than was torn abruptly, as is generally the case. Still the expression of the countenance, in all the cases of rupture I have seen, is very remark-

able, and I think cannot easily be mistaken. Another source whence obscurity arises is where inflammation is present; when rupture takes place under such circumstances, its symptoms are mixed up with and disguised by those of inflammation; but it is scarcely necessary to add, that the existence of such symptoms requires as prompt an attention, and as decided practice, as rupture itself. After a labour in which the pains become insufficient in advancing it, if inflammation happens, it is often ushered in by rigors of increased severity; the passages are hot, dry, and exquisitely tender. Without any direct pressure on the urethra the urine is retained, and the introduction of the catheter painful. The pulse becomes frequent, (120,) quick, and sometimes bounding; tongue loaded; uterus tender; thirst is increased; the stomach generally rejecting what she drinks; presently the abdomen becomes tympanitic. During her pains her agony is extreme; she complains of a sensation as if she was bursting; in the interval she gets little relief, she is still suffering pain, though in a less degree; the pains again return with the same symptoms; they become short, and are accompanied with a distressing whine, rather than the full deep tone of the true bearing pain. She becomes restless, cannot remain quiet in any position; the countenance expresses all her suffering; the cheeks are irregularly suffused, and marked with a patchy redness; the eyes starting wildly with the pains, or dull, and gazing listlessly in the intervals. If these symptoms are suffered to proceed, they are succeeded by others still more alarming. The abdomen is quite tympanitic; the pains come on at longer intervals (sometimes there appears to be no interval); a dark and highly offensive discharge flows from the vagina. Vomiting becomes dark and grumous, like coffee grounds. Very foetid discharges from the bowels, and a low muttering delirium; all combine to point out a case of the worst description, and which, if it be suffered to proceed thus far, the addition of a ruptured uterus is almost immaterial.

The symptoms which follow rupture of the uterus may be divided into three stages: 1st, Those denoting constitutional shock: viz., fluttering pulse, anxiety, hurried respiration, restlessness, &c. 2nd, An interval usually of short duration, in which the pulse becomes unsteady, though frequent, weak, and compressible; the countenance resumes its natural appearance, the surface warm, and the tenderness of the abdomen slight: in this interval the symptoms fluctuate between debility and commencing inflammation. Soon, however, the third stage appears, in which the symptoms of peritonitis are distinctly marked.

As in these observations my object is rather to point out those facts which are but slightly touched upon, than enter into a detail of the entire subject, I shall state, in a very few words, the treatment pursued, which I believe to be that generally adopted. In the first stage a large opiate was given, with some stimulant, which if the stomach rejected, it was repeated in the common effervescent draught; when rest was procured, and this stage passed off, it was an object to procure an evacuation from the bowels. A bolus (cal. gr. x. p. jalapæ gr. xv.) was administered, to be followed by an emollient enema, or a draught of castor oil. In all the cases, with one exception, (Case 4,) I have met with, the bowels were remarkably obstinate. Some serous stools were procured, but no feculent evacuation until the gums were salivated; the symptoms of peritonitis, as they appeared, were treated by local depletions, an active mercurial course, (cal. gr. ij. to iv. opii. gr. $\frac{1}{2}$, 2^{ds}. q. q. horâ,) warm baths, fomentations, &c.; when salivation took place there was generally a remission of the symptoms. The abdomen became soft, stools natural, and pulse fuller; but diarrhœa soon supervened, accompanied with bilious vomiting. When this threatened, mercury was immediately omitted, and opium with astringents substituted; if checked, which it was for a short time in some of these cases, there was an evident improvement in all the symptoms; but it always returned, and the patient sunk under its effects. It is remarkable, that in

cases which have recovered, the bowels were easily affected, and very mild purgatives were found sufficient for the purpose, (vide two Cases published by Dr. Collins, late Master of the Lying-in Hospital, Dub. Med. Trans. vol. i.) while in general, and in fatal cases, the contrary took place. The advantage then of having the bowels emptied, if possible, before inflammation sets in, and adhesions can take place, is obvious. This, unfortunately, is seldom to be attained, and at a later period, the risk of bringing on diarrhoea renders purgatives hazardous; recent adhesions may be again torn up, and hæmorrhage succeed, an event which, in so critical a case, would turn the balance entirely against success. A favourable moment lost is not to be regained in such cases, and the value of Dr. Collins' remark must appear evident, "that early and active means of counteracting the dangerous and sudden inflammation that sets in, in all cases of this kind, is a matter of the utmost importance."

The result of these observations, derived from the cases I have detailed, lead me to the following conclusions.

1st. That a perfectly healthy uterus is very rarely ruptured, excepting from external injury.

2nd. That in most of the instances where it occurs, it may be traced to morbid lesions, either previously existing, or produced by inflammation; and even in some cases, where this cannot satisfactorily be proved from inspection, the history of the case would seem to indicate it.

3rd. That rupture may occur in cases where the labour is not unusually prolonged, nor the pains violent; on the contrary, it has happened where the pains were weak, and the progress of labour in every other respect favourable.

4th. Comparing cases in which rupture has taken place with cases of tedious and difficult labour generally, it appears to me not so much to be apprehended in the latter class of labours, as is generally supposed. It seldom occurs with first children, that peculiarly belong to that class, while in those cases,

where there have been previously difficult labours, even requiring instrumental aid, and where the uterus was of course exposed to all the disadvantages to which rupture is generally attributed, the uterus did not give way until in a subsequent labour, where it has yielded to very trifling uterine action.

5th. That inasmuch as premonitory symptoms are often absent where rupture occurs, and present in those cases where delivery has been safely completed by the natural efforts, they are too uncertain to take as guides for practice, more especially as we may be led by them into a mischievous interference. As a rule, they should always be coupled with the previous history of the case; whether the woman has had many children? previous difficult labours, or whether instruments were necessary? the state of the uterus previous to conception? &c. &c. These queries, which are founded upon the assumption of organic lesions, I would consider necessary to guide and justify me in an interference which otherwise might be premature.

In the remarks which I have submitted to the profession, I seek not the merit of novelty; I am fully aware that in the present day, novelty, like the philosophers' stone, is a treasure always sought after, often asserted, but never attained. If what I have said throws any light upon obscure cases, or may lead to a closer pathological investigation, which may correct or confirm my views, my object is sufficiently attained.

I cannot conclude this paper without alluding to a very interesting case, published by Mr. White in the 15th Number of this Journal. A lady pregnant of her ninth child met with a fright, causing her to turn round quickly; she was immediately seized with pains, faintness, and palpitation, which then passed away; eight days afterwards they returned in an increased degree, labour supervened, and after a few pains, she was delivered of a full grown still-born male child; in three quarters of an hour she expired. After death it was found that considerable hæmorrhage had taken place into the abdomen, and on the anterior surface of the uterus were two long tears or lacera-

tions, and one of smaller size through the peritoneal coat, and through a few superficial fibres of the uterus. This seems to be one of those very rare cases, in which laceration, whether partial or complete, takes place before labour has commenced. In Dr. Spark's case, which I have quoted, a fall on the hands and knees caused an extensive laceration. In Mr. Else's, an excursion to Greenwich is the only cause assigned for rupture, at the time of quickening; but what is more to the point, Dr. Ramsbotham's case of sudden death, in the last month of pregnancy, occurred in the excitement of social amusements; after death blood was found extensively effused under the peritoneum, which however had not given way. Mr. White's case appears to be analogous to these. I would suppose that, in the first instance, when she was seized with pains, faintness, and palpitation, the fibrous structure, perhaps diseased, had partially given way, and in place of producing instant death, as in Dr. Ramsbotham's case, the effused blood formed a species of diffused aneurism under the peritoneum, which subsequently giving way, poured the whole contents of the sac into the abdomen, thus causing fatal hæmorrhage. I would presume the fibrous structure to have been diseased, for in all the cases I have met with, where softening was found, the peritoneum was detached, and either raised up by coagula underneath, or it gave way, and poured the blood and clots into the abdomen. In the cases I have quoted, also, the uterus appeared to have been diseased. From these cases, however, Mr. W.'s differs in the laceration being partial, and confined to the external surface, and in this respect agrees in some degree with those to which he has alluded. Whether a few fibres be torn, or the whole be ruptured, seems to me after all but an accidental difference, the effect of opening the sinuses is the same. Where such trifling causes produce such extensive injury, it is an additional reason for examining accurately into the structure of the uterus, whether any or what alterations may have taken place in it, and in this point of view I have assumed disease of the fibrous structure in Mr. W.'s case. However he has not so stated it, and we

must look upon it as an interesting addition to that class of (fortunately very rare) cases in which rupture of the uterus and sudden death take place, without any satisfactory cause to account for or explain it.