ART. X.—*Observations on Placenta Prævia; with Cases.* By ALEXANDER TYLER, M.D., Lecturer on the Theory and Practice of Midwifery in the Original School of Medicine, Peter-Street.

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THE ancients appear to have been fully aware of the great danger attendant upon all hæmorrhages in the latter months of utero-gestation. Hippocrates says, "that the after-burden should come forth after the child; for if it come first, the child cannot live, because he takes his life from it as a plant doth from the earth."(*b*) But as to the causes or treatment of such, little seems to have been known until the commencement of the seventeenth century.

Guillemeau, a favourite pupil of the distinguished French surgeon, Ambrose Paré, in his work entitled *Le Moyen de secourir la Femme quand l'arriere faix se presente le premier,* published early in the seventeenth century, argues

(*a*) Vide Wilde's Narrative, second edition, page 143; and Appendix, pp. 609, 613.

(*b*) *De Morbis Mulierum,* book i.

strongly in favour of the operation of turning, as the safest treatment for both mother and child in all cases of flooding in the latter months. There is considerable difference of opinion as to whether he and his contemporary, Mauriceau, were aware of the placenta being sometimes originally implanted on the os uteri. Dr. Lee(*a*) seems to think they were; however, the quotations he gives in favour of that opinion are not sufficiently clear, in my estimation, to prove their knowledge of that most important fact.

De Graafe, according to Renton(*b*), was the first to state distinctly that the placenta may be attached to other parts of the uterus besides the fundus. He says, in his work on females, "Dicendo certum ac determinatum placentis locum haud assignare posse."(*c*) It appears from this quotation that he was aware of the placenta not having any fixed point of attachment to the uterus. But it was left for Paul Portal, in 1672, to shew that the original situation of the attached placenta, in these cases, was at and around the cervix uteri, as the following passage from his work clearly proves: "*Je glissai mes doigts dans les orifices ou je sentis l'arriere faix qui se presentoit et qui bouchoit l'orifice de la matrice de tous cotez avec adherence en toutes ses parties, excepté par le milieu qui se trouvoit divisé jusques a la membrane laquelle n'etant pas ouverte, n'y les eaux ecoulées, j'eus beaucoup de facilité a tourner l'enfant.*"(*d*) Again, in another part, he says, "*en la glissant je sentis le placenta qui environnoit en dedans l'orifide interne.*" These extracts alone, I think, are sufficient to shew the correct knowledge possessed by Portal as to the true seat of attachment of the after-birth in placenta prævia.

Giffard(*e*) was the next to publish cases in corroboration of the views adopted by Portal, and to express a doubt as to the opinion, even then generally entertained, that the placenta,

(*a*) Edin. Med. and Surg. Jour. April, 1839, p. 389.
(*b*) Idem. July, 1837, p. 244. (*c*) *De Mulierum Organis*, p. 291.
(*d*) *Portal's Traite des Accouchemens*, 1685.
(*e*) Cases in Midwifery, by W. Giffard, 1734.

when found at the os uteri, was loose and unattached. In concluding the history of Case No. 115, he observes: "I cannot implicitly accede to the opinion of most writers on midwifery, which is, that the placenta always adheres to the fundus uteri, for in this, as well as many former instances, I have good reason to believe that it sometimes adheres to or near the os internum, and that the opening of it occasions a separation, and, consequently, a flooding." Again: "In this case the placenta adhered, and was fixed close and round about the cervix uteri, as I have found it in many other cases, so that upon a dilatation of the os uteri a separation has always followed, and hence a flooding naturally ensues."

The next writer on the subject who has a claim to be noticed is Rœderer of Göttingen, who, in his *Elementa Artis Obstetricæ*, published in 1753, gave the clearest and most complete description of placenta prævia then published. About the same period Levret published his views upon the subject of uterine hæmorrhage depending on the implantation of the placenta over the os uteri, and to these two eminent men are the Continental schools unquestionably indebted for having given them a complete and correct explanation of the subject.

Among our own countrymen, Sir Fielding Oulde, in 1742, gave the history of a case of placenta prævia at the full time, where he turned the child, and saved both it and the mother; but he, like most of his contemporaries, fell into the common error of supposing the placenta to have been loosened from its original seat of attachment, and, being separated, to have glided into the cervix uteri.

Smellie, in 1752, thus observes: "The edge or middle of the placenta sometimes adheres over the os internum, which frequently begins to open several weeks before the full time; and if this be the case, a flooding begins at the same time, and seldom ceases entirely until the woman is delivered."(*a*) Lastly, I have to notice an author whose name is familiar to us all, as

(*a*) Vol. i. p. 143.

being the first to draw the immediate attention of the profession in this country practically to the subject, I mean Dr. Rigby, of Norwich, whose classic essay on uterine hæmorrhage appeared in 1775, and, within a few years, not only attained a wide circulation at home, which the numerous editions called for fully attest, but was also translated into the German and French languages; and, notwithstanding the previous publications of Rœderer and Levret, circulated extensively in those countries, sufficiently proving the value set upon the work; and although published subsequent to those of Rœderer and Levret, I think it is unjust to accuse him of borrowing his ideas from them, as it appears he was totally unacquainted with the writings of the former, and it was not until after the first edition of his treatise was at press that Levret's dissertation on this subject fell into his hands.

Placenta prævia is now generally ascribed to the ovum escaping through the Fallopian tube into the uterus before the decidual membrane lining that organ has acquired a sufficient degree of firmness and tenacity to arrest the ovum at the mouth of the tube, and thus permitting it to descend to the cervix uteri at once, as must inevitably be the consequence in all cases, only for this provision.

Dr. Radford, of Manchester(*a*), describes the membrana decidua as consisting of two layers: first, an outer, which is lost at the Fallopian tubes and os uteri; and, secondly, an inner, which stretches across these openings. Thus, when the ovum descends, it is arrested at the mouth of the Fallopian tube by the inner layer; in his own words: "At this early stage of gestation there is no funis umbilicalis, the embryo, in appearance like a small speck of mucus, being attached immediately to that portion of the ovum which enters the uterus last. The consequence of this arrangement is, that the part of the ovum most distant from the embryo is in contact with and carries forward the inner layer of the decidua, whilst the portion of the fœtal membranes with which the embryo is connected is

(*a*) Pamphlet, and Lond. Med. Gaz.

immediately applied to the more vascular outer layer; and hence the placenta is found in all natural cases a little to one side of the fundus uteri." Now, he supposes that when the inner layer is deficient, so as to allow the ovum to drop into the cavity of the uterus, that then the placenta will become attached to the cervix, or sides of the uterus.

Dr. Burns ascribes placenta prævia to the mode in which the ovum presents as it enters the uterus. For instance, if that side enters first to which the embryo is attached, he supposes it unites itself with the inner layer of decidua to form the placenta, and that, as the ovum increases, the decidua reflexa being pushed before it, the placenta at last comes to be attached over the os uteri.

Velpeau's opinion is, that the future situation of the placenta depends upon the adhesion of the decidual membrane to the uterus being greater at one point than at another; for example, he conceives that if the adhesions are stronger above, the ovum will descend; and, in like manner, laterally, according to the side where the membrane is least adherent.

Professor Moreau(*a*) claims the credit of having first pointed out the predisposing causes of this abnormal affection to depend on a want of consistence of the decidual membrane, or of due adhesion of it to the uterine parietes. He also supposes that the ovum receives an impulse on leaving the Fallopian tube, which, together with accidental circumstances, such as mental emotions, sudden fright, &c., may cause its descent to the cervix, where it becomes fixed, if arrested by the plug of gelatinous mucus which fills the cervico-uterine orifice: or if the latter is open, and the mucous plug not sufficiently firm to arrest its progress, the ovum passes on, and is shortly expelled, along with an accompanying discharge, constituting what he called an "effusion," or "effluxion."

Lastly, M. C. Negrier, of Angers, on the supposition of the ovum being sometimes fecundated by the semen during its

(*a*) Vol. i. p. 330.

passage through the uterus, gives it as his opinion, that in cases of placental presentation the ovum had already reached the cervix before it was fecundated, after which it becomes fixed there(*a*).

On the structure of the human placenta, and the nature of its connexions with the uterus, various opinions are still entertained. The Hunterian doctrine of the placenta consisting of two portions, a maternal and a fœtal, and the belief in the existence of utero-placental vessels, has been denied by Dr. Robert Lee. On the other hand, Dr. Burns, from a careful examination of the original preparations of the Hunters, and likewise from investigations conducted on the parts in their recent state, has arrived at conclusions corroborative of those of Hunter.

Dr. Radford, in 1832, published an essay on the structure of the human placenta, and its connexions with the uterus, in which he endeavours to prove the structure of the placenta to be entirely fœtal and vascular. In describing a preparation, he says: "The placenta, which was everywhere pervaded with injection, proves every part of it to be accessible to the fœtal vessels; and there is no part in it which answers to the portion that is usually described as the maternal or cellular." This observer succeeded in injecting the uterine structure through the umbilical vein with size, the effect of which he describes as follows: "The entire structure of the uterus was permeated by the injection, and some of the sinuses partially filled, and all of them coloured by it." In the same essay he also demonstrated the existence of placento-uterine vessels, which he describes as so minute, that they are not capable of being injected with wax, or of admitting, perhaps, red blood. Through these minute vessels, however, he supposes an interchange of the more subtle parts of the blood do take place between the mother and fœtus.

(*a*) *Recherches et Considerations sur la Constitution et les Functions de Col de l'Utérus*, par C. Negrier, 1846, p. 46.

According to the investigations of Dr. Reid, the fœtal-placental vessels form tufts, each composed of an artery and vein, which are received into sacs, formed by the inner coat of the vascular system of the mother, and hang there like the branchial vessels of certain aquatic animals. These sacs, according to him, are filled with maternal blood through the curling arteries of the uterus (first noticed by the Hunters), and are emptied by the utero-placental veins, which return the blood to the mother, without its ever having left her own system of vessels.

Dr. Reid also observed that some of these tufts of placental vessels were prolonged into certain of the uterine sinuses, and these ramified to the distance of a quarter, half an inch, or even an inch, in their interior; at other times they merely projected into the mouths of the sinuses. At all times they were covered by a prolongation of the inner coat of the venous system of the mother, so that no extravasation of the maternal blood could take place. The Hunters believed that the intervals between the fœtal-placental vessels were filled up by a cellular tissue, into which the maternal blood is poured. Reid says there is no such tissue connecting them.

The uterine vessels are described by Weber as forming a net-work in the interior of the placenta, and he has not noticed the prolongation of the fœtal-placental vessels into some of the uterine sinuses; these constitute the chief points of difference between him and Dr. Reid. The latter further states, that the umbilical artery and vein forming each of the tufts divide and subdivide exactly in the same manner, and at last terminate in each other. Weber supposed that the inosculating artery made several loops and turns at the end of the villi, or tuft, before entering the nearest venous trunk. Some late investigations made by Mr. Dalrymple would appear to bear out Weber's view as to the termination of the arteries by capillaries before entering the venous trunks.

I copy the following analysis of Mr. J. Goodsir's description of the structure of the human placenta from Cormack's Monthly Journal for June, 1845: "According to Mr. Goodsir, the walls of the tuft and villi of the placenta are composed of the following textures. 1st, a fine transparent membrane, continuous with the internal membrane of the vascular system of the mother, described by Dr. J. Reid. 2nd, a layer of cells (the external cells of the villi), described by Mr. Dalrymple. 3rd, a membrane even finer and more transparent than the external, immediately bounding the blood-vessels, and which he names the internal membrane of the villus. 4th, a layer of cells, the internal cells of the villus. 5th, the blood-vessels of the tufts. The two first form the maternal portion, the two last, the fœtal portion of the placenta." He concludes from the anatomical constitution of the villi, "that the function of the external cells of the placental villi is to separate from the blood of the mother the matter destined for the blood of the fœtus; they are, therefore, secreting cells, and are the remains of the secreting mucous membrane of the uterus."—"The function of the internal cells of the placental villi is to absorb through the internal membrane the matter secreted by the agency of the external cells of the villi. The external cells of the placental villi perform, during intra-uterine existence, a function for which is substituted in extra-uterine life the digestive action of the gastro-intestinal mucous membrane. The internal cells of the placental villi perform, during intra-uterine existence, a function, for which is substituted, in extra-uterine life, the action of the absorbing chyle-cells of the intestinal villi."

Having considered the structure of the placenta, and the nature of its connexion with the uterus, we are now prepared to discuss the question,—from what set of vessels does the chief flow of blood issue? This is a most important point to settle, for upon a knowledge of it will depend our power to

decide as to the merits of a mode of treatment highly recommended of late by the eminent professor of midwifery in Edinburgh.

In order that we may arrive at a fair conclusion on this disputed point, it becomes necessary to quote the opinions of some other late writers upon the subject. Dr. Lee says he has observed at least twenty cases of placenta prævia(*a*), where "the first attack of hæmorrhage was so sudden and profuse as to endanger life, and, in several, reduced the patient to a condition which rendered recovery impossible, though the most prompt and energetic treatment was employed. In all these cases the blood could not have escaped from the mother through the medium of the placenta, but from the mouths of the great veins left open in the lining membrane of the uterus, by the detachment of the placenta, in consequence of which a direct communication was established between the cavity of the uterus and the cavities of the heart." He further observes: "The small curling arteries in the placental decidua, which convey the whole of the maternal blood that enters the placenta, could not possibly replenish the organ for a very considerable period, if the maternal blood were entirely to escape in a few seconds from the exposed decidual veins: the fœtus, also, would invariably perish in cases of placental presentation after the first attack of hæmorrhage, if this were the fact, which is known to be quite the reverse."

The open gaping mouths of the uterine sinuses, so well described by Dr. Lee, as the chief source of the hæmorrhage in placenta prævia,—as indeed in every other form of uterine hæmorrhage previous or subsequent to delivery,—are beautifully illustrated by a plate in the late Dr. Ingleby's valuable treatise on this subject, to which we would particularly direct the attention of our readers.

Dr. Ashwell(*b*) remarks: "It is easy enough to shew, to the

(*a*) The London Med. Gaz. 1845, p. 1106. (*b*) Ibid. p. 1196.

satisfaction of the most incredulous, the great openings existing in the lining membrane of the uterus, exactly opposite the attachment of the placenta, and which are covered by interposed decidua. Into many of these the tip of the finger may be inserted, while their course, and extensive communications with the uterine sinuses, full of blood, is evident at a glance. Surely, such an organization affords the clearest proof of the *source* of the hæmorrhage in placenta prævia." Dr. Lee's observations are, in his estimation, "altogether unanswerable."

Dr. Radford(*a*) recognises two sources of the hæmorrhage in placenta prævia: first, from the uterine sinuses; secondly, from the decidual surface of the placenta. According to him: "So long as the placenta is alone separated, and its organization remains perfect, bleeding takes place from one or both of the seats before-mentioned. But after labour has existed some time, the placenta becomes not only further separated, but its structure is disrupted, and its texture broken up, so that another source of bleeding is now created under the last-mentioned circumstances, as the blood now proceeds directly from its own circulatory system."

Professor Simpson, of Edinburgh, asserts, "that the hæmorrhage comes chiefly from the placenta itself;"(*b*) and, on this supposition, recommends the novel practice of the extraction of the placenta before the child. He says: "When it is only partially separated from the uterus, the blood enters freely by the adherent portion of placenta that is detached." This would be admitting a direct communication to exist between the fœtal vessels and those of the mother,—for in what other manner could we account for the *sudden* prostration of the

(*a*) London Medical Gazette for 1832, page 1246. Since then he has, however, changed his opinion with regard to a direct vascular connexion between the mother and the fœtus; being convinced that his conclusions at that time were incorrect. See Lancet for 27th February, 1847.

(*b*) Northern Jour. of Med., Jan. 1846; and London and Edin. Monthly Jour., 1845–6.

latter after a gush of hæmorrhage. Dr. Simpson accounts for it in a different way. He says: "One cause contributing to prevent hæmorrhage after the total separation of the placenta is, the abstraction from the uterine vascular system of the derivative or sugescent power of the maternal circulation in the placental cells, and the consequent tendency of the blood to flow in the more direct and freely communicating channels that exist between the uterine arteries and veins. Besides, the general and direct forward current of the blood along the course of these larger uterine veins diminishes, and, in a measure, destroys the tendency which it might otherwise have, either to flow backwards, or to escape by any existing lateral apertures of the vessels. Among the other remaining means by which hæmorrhage is more or less prevented after the detachment of the placenta, I may mention, first, the occasional presence of tufts of fœtal vessels left in the orifices of the uterine veins, and forming not only immediate mechanical obstacles, but nuclei for the ready coagulation of the blood; second, the formation of coagula in some of the collapsed venous tubes and orifices; and third, the presence for some hours, or even days, after delivery, of the collapsed decidua over the apertures seen in the veins on the interior of the uterus."

I now leave it to the judgment of those who, from practical experience and correct anatomical knowledge, are able to decide whether we are to receive this new theory of Dr. Simpson's, and with it to adopt his new method of treatment, or not. For my own part, until stronger evidence is brought forward in corroboration of his views, I would rather persevere in the old established line of practice in this emergency, than adopt a plan so much opposed to our present state of anatomical knowledge and practical experience.

Mr. Newnham, of Farnham, has published in the Medical Gazette(*a*) the result of his experience in cases of placenta prævia. He met with thirteen cases of placenta prævia since

(*a*) London Med. Gaz. Nov. 1845, p. 1247.

the 1st of January, 1812, and of these, twelve mothers recovered. The fatal result in his thirteenth case, cannot be attributed to the operation of turning, although the woman only survived it two hours, for it appears he had recourse to it solely as a forlorn hope, the patient being exhausted from previous hæmorrhage before he saw her. It is also to be borne in mind that this was a midwife's case, where he was called in too late. The above thirteen cases were all that ever occurred to him: "they are not, therefore, selected cases, or taken from one class of life, but may be considered as a fair sample of country practice." He attributes his success in the foregoing twelve cases, "first, to his invariable rule in every case of doubtful hæmorrhage, to make himself perfectly certain as to the cause of the flow of the blood; secondly, having ascertained that it was from placental presentation, to lose no time in effecting delivery by turning; to turn at once, if the os uteri were sufficiently dilated or dilatable; and if not, to adopt every possible means to secure this object, and to turn as soon as it was obtained; and thirdly, to the possession of an extremely small hand, which enabled him to do all he had to do with less violence to the mother, and, consequently, with less present hæmorrhage, and less subsequent irritation."

The result of Dr. Lever's cases, also published in the Medical Gazette(*a*), affords a much higher average of mortality: for of thirty-four cases he lost seven mothers. Eighteen of these cases are stated to have been only partial; yet version was performed in thirty cases. In these thirty, seventeen children were saved.

I hope the profession generally will follow the good example shewn by Drs. Newenham and Lever, for it is only by our having the results of a large number of cases that we will be able to come to a conclusion as to the comparative mortality of cases treated by the ordinary mode at the present day, and by the practice of late advocated by Drs. Simpson and Radford.

(*a*) London Med. Gaz., Dec. 1845, p. 1422.

In a paper read by the former before the Medico-Chirurgical Society of Edinburgh, Dec. 4, 1844, on the spontaneous Expulsion and artificial Extraction of the Placenta before the Child, in Placental Presentation, he contrasted the results of the practice generally followed with that of 120 cases collected by him ("some previously recorded, and others collected from private sources), in which the placenta had come away before the infant, either expelled by the natural efforts alone, or in consequence, in several instances, of the reputed bad management of the accoucheur."(*a*) Of these only eight mothers died, affording an average mortality of one in fifteen. Whereas, out of the former, amounting to 339 cases in all, treated by version and the ordinary rules of practice, 115 mothers died, or one out of every three. "The same cases also shew that, though much blood may have been escaping before the placenta comes away, yet as soon as the separation is complete, the hæmorrhage usually ceases, or becomes very trifling. A complete separation of the placenta is thus proved to be far less dangerous than a partial one,—a fact that at first may appear somewhat paradoxical, but which is readily explained by the structure of the fœtal placenta. The hæmorrhage comes chiefly from the placenta itself. When it is only partially separated from the uterus, the blood enters freely by the adherent portions, and escapes as freely from the surface of the portion of placenta that is detached. From a consideration of these facts, Dr. Simpson was led, four years ago, to propose to the Obstetrical Society, whether, in cases of hæmorrhage from placental presentation, we should not sometimes adopt the practice of extracting the placenta, in order to arrest unavoidable hæmorrhage, leaving the fœtus to be expelled by the natural efforts of the uterus, or otherwise." Dr. Simpson stated he had adopted this procedure in one case in autumn, 1844, with perfect success, the placenta having been extracted two hours before the birth of the child. "This method, he thought, would be found particularly

(*a*) London and Edin. Monthly Jour., Feb. 1845.

applicable to those sets of cases in which turning or rupture of the membranes is inexpedient or impracticable; as, in cases where hæmorrhage occurs to an alarming extent, while the os uteri is still small and rigid; in unavoidable hæmorrhage in first labours; in placental presentations, when the patient's strength is already so sunk, from the flooding, as not to allow, without danger, of immediate turning or forcing delivery; in cases where the child is known to be dead, &c. &c."

Dr. Radford(*a*), of Manchester, limits the extraction of the placenta—1st, "Where the danger to the woman is so great from exhaustion, as to render the ordinary plan of delivery by turning the child hazardous. 2nd, Where there exists some obstacle to the extraction of the child, either from distortion in the bones of the pelvis, or tumours connected with it, or in its cavity, but connected with the soft parts. 3rd, Where the child is dead."

Out of the nine following cases of placental presentation that I have witnessed, only one was attended with fatal results, and in that the placenta was extracted. This was a case of unavoidable hæmorrhage at the fourth month, and its history, at least, is not such as to encourage us in a repetition of the practice, at all events, at such an early period of utero-gestation.

Case I.—In December, 1842, I was requested to visit a poor woman, aged 40, residing in New-row, and in the fourth month of her second pregnancy, who was represented by the messenger to be bleeding to death. We found her in bed, where she had been obliged to lie down two hours before, on account of weakness produced by a profuse discharge of blood; labour pains had commenced that morning, and had continued all day, accompanied with hæmorrhage, but not such as to alarm herself or friends until 4, P. M. Her countenance was now ghastly pale and anxious, pulse quick and feeble, indicating the loss of a considerable quantity of blood. On examination, the os uteri was found dilated to the size of a crown-piece, with the pla-

(*a*) London Med. Gaz. 1845, p. 1291.

centa attached centrally over it, hæmorrhage profuse, and increasing with every pain. The placenta was extracted, and an attempt made to hook down the fœtus with a finger, which failed. A slight draining continuing, a plug was then introduced, which checked it; and shortly afterwards ergot of rye was administered, without, however, producing any good result.

On the second day the plug was removed, and with it a portion of placenta which had been left; the os uteri was found, on examination, to be now nearly closed.

On the fourth day she complained of pain in her back, but not of such a character as to attract particular attention. Six days after this, her only complaint being weakness, she was ordered light nourishment, chicken broth, &c. No particular change occurred until the thirteenth day, when she first complained of her throat, and of inability to open her mouth; she could only swallow fluids, and even these with difficulty. An examination being instituted, the os uteri was found perfectly contracted and impervious; she had experienced severe pain in the back all night, with occasional spasms of the facial muscles. On the following day the jaws were completely locked, and the body bent backwards, in a state of opisthotonos: death finally put an end to her sufferings on the sixteenth day.

I think every one must admit, from the symptoms above noted, that this was a case of tetanus; and may we not pronounce it traumatic, when we consider the exciting cause to have been an injury inflicted on the cervix uteri by the forcible extraction of an adherent placenta.

Case II.—The next case was a patient that a neighbouring practitioner requested me to attend for him, saying that he had another engagement at the time, and merely observing, in a cursory manner, as he left me, that I should go quickly, as the woman had lost some blood. On reaching the house a few minutes afterwards, I found her in a most exhausted state from hæmorrhage. The nurse produced a vessel containing a large

quantity of coagula, and said these were only a portion of what had been discharged within the last twelve hours. On examination, I found the os uteri not fully dilated, and the placenta presenting over it. There was no pulse at the wrist, at least that I could feel. Fearing to deliver her in the state she was then in, I plugged the vagina, and ordered some port wine. Dr. Ireland saw her shortly afterwards, and whilst making an examination, requested me to allow him to bring down the foot, which was then within reach, as he was afraid any further loss of blood might prove fatal. This he succeeded in effecting by means of two fingers introduced into the os uteri, and then charged me to be in no hurry in terminating the delivery, but merely to assist the expulsive efforts of the uterus, and in the intervals of the pains, to keep up constant gentle traction upon the limb, so as to make the thigh act the part of a plug. In this way delivery was not completed for three-quarters of an hour, by which time the patient had recruited under the continued administration of wine. The child was, of course, dead. The mother recovered, without any bad results.

I have been thus particular in detailing the management and history of this case, that it may prove as useful a lesson to those beginning the practice of midwifery as it was to me. I am convinced that, had I not attended to the judicious and practical directions I had received, but, on the contrary, had hurried the delivery, that in place of saving the woman's life, she must have, in all probability, perished from the effects of the sudden shock, in her then prostrate condition. As it was, we had the greatest difficulty in supporting her fast-ebbing strength, in the interval afforded us by the course pursued, which would undoubtedly have been speedily extinguished, had we followed a contrary mode of delivery. Now this is one of the cases where Drs. Simpson and Radford recommend the extraction of the placenta—"the danger to the woman being so great from exhaustion, as to render the ordinary plan of delivery, by turning the child, hazardous."

Case III.—Mrs. W., of Corn-market, ninth pregnancy, was visited on the 12th of January, 1845, by Messrs. Evans and M'Murray, who, finding her in a dangerous state from loss of blood, came for me. On examination, I found the vagina filled with clots, the os uteri was well dilated, and the placenta presenting. With little difficulty I succeeded in passing my hand between the placenta and uterus posteriorly, and in seizing a foot, which having brought down externally, the hæmorrhage completely ceased. The delivery was shortly afterwards completed. This child was born alive. The mother recovered rapidly.

Case IV.—Mrs. R., New-street, states that about a month since she was attacked with a shedding, without any apparent cause. This continued increasing, at intervals of ten days, until Tuesday, the 16th of June, when a quantity of fluid escaped, preceded for the first time by uterine pains. From this date until the commencement of her labour, a period of a week, there was a gush of blood during each pain, which amounted to about eight or ten in the course of the twenty-four hours. I saw her on Monday, the 22nd, at half-past nine P. M., and, on examination, found the os uteri dilated to the size of a shilling, the cervix still elongated, and the placenta presenting. The vagina was at once plugged with a sponge, which effectually stopped the hæmorrhage. About one, A. M., June 23rd, the sponge was removed, and the os uteri found to be dilated only to the size of half-a-crown. During each pain a gush of blood occurred; the sponge was therefore reintroduced, which stopped the hæmorrhage completely. At four, A. M., the os uteri was sufficiently dilated to admit of the introduction of the hand, by means of which a foot was brought down, and delivery effected of a small male child, alive. This woman recovered in the usual time, without the supervention of a single bad symptom.

Case V.—I was sent for by the nurse of the Western Lying-in Hospital, at eleven, P. M., Nov. 6th, 1845, to see Mrs. L., of

Beresford-street, aged 30. This was her sixth pregnancy. Her previous labours had been all natural and rapid. By her own account the pains first commenced at three, P. M. At six o'clock, whilst sitting at tea, she felt a copious discharge coming away, which she supposed to be the waters, but on inspection, in place of water, it proved to be blood; the hæmorrhage came on with each pain. By the account of her attendants she had lost several pints of blood before I visited her at half-past eleven. She is stated to have fainted twice before they lifted her into bed. Skin cold and clammy; face ghastly pale; complains of faintness and thirst. On examination, the vagina was found filled with clots, the os uteri high up, undilated, and rigid; hæmorrhage to an alarming extent occurring with every pain. A sponge, soaked in vinegar and water, was immediately introduced into the vagina, and passed up to the os uteri, and small quantities of wine were occasionally administered. Under this treatment she soon began to rally, and the pains to recur more regularly, without any appearance of hæmorrhage. 7th, at one, A. M., a clot was forced out past the sponge, and half an hour afterwards a powerful pain expelled the plug, along with a large coagulum. The soft parts being now well dilated, I passed my hand up to the os uteri, and found the placenta completely covering its orifice, so it was with some difficulty that I was enabled to separate it posteriorly, and to carry my hand into the cavity of the uterus; a large quantity of liquor amnii at this time escaped. After passing the head, the first member that presented itself was a hand; avoiding it, I got hold of a foot, and, after about fifteen minutes, succeeded in delivering her of a full-grown male child, unfortunately past resuscitation. The placenta being removed, and the binder carefully applied, she was left under the charge of the nurse for the night. On visiting her again at two, P. M., I found her in a very exhausted state, after passing a sleepless night, the wet clothes about her never having been changed since my last visit. She was ordered an opiate at night. On the fol-

lowing day (the 8th) she complained of pain over the left side of the fundus of the uterus, which subsided under the usual treatment. On the 21st she was attacked with phlegmasia dolens, for which complaint she was removed to hospital, but ultimately recovered.

The third and fourth cases which I have related illustrate the great advantage to be derived from the use of the *tampon* when the soft parts are rigid and undilated, as by means of it you save the profuse loss of blood to the patient, which must otherwise take place before the os uteri is sufficiently dilated to admit of the introduction of the hand for the purpose of turning. I am aware that many object to the use of the plug in cases of unavoidable hæmorrhage at the full time, from the dread of internal hæmorrhage going on without the attendant being aware of it. Now, although I recommend its use in cases of rigidity, I would by no means have it used indiscriminately, and for the purpose of allowing the medical man to leave the house; on the contrary, I would have him never leave the bedside of his patient until he was perfectly certain that the hæmorrhage was arrested; this favourable result will soon be indicated by the pulse of his patient, and by her fast returning strength. I have been really astonished at the rapidity with which they recruit after its introduction; and not only that, but I have remarked they acquire a degree of confidence in their present state of safety, which materially assists the uterine contractions. For my own part, I cannot see any risk of internal hæmorrhage from the use of the plug in complete placental presentation, until full dilatation has taken place, which is all we recommend it for; of course, the attendant should be on the watch, and if he saw any appearance of sinking about his patient, he should immediately withdraw the plug, and ascertain distinctly the state of things. With these and other precautions, which must strike every well-educated accoucheur, I have no hesitation in adding my testimony to those who advocate the use of the plug in certain cases, and at

a particular stage of placental presentation. The plug, when properly introduced, acts the part of a compress against the bleeding mouths of the vessels(*a*). I prefer a soft sponge for the purpose, sufficiently large to fill the vagina. When introduced, after being steeped in cold vinegar and water, let the superior extremity, which should be the narrowest, be fairly brought into contact with the bleeding mouths of the cervico-uterine vessels.

CASE VI.—Mrs. Callaghan, aged 31, was admitted into the Western Lying-in Hospital, in labour of her second child, on the 4th of March, 1846; had enjoyed good health until the first of the month, when hæmorrhage commenced, and continued at intervals until this morning, when her friends applied to the hospital for aid. On admission the os uteri was found well dilated, with a lip of the placenta and an arm of the child presenting. It being decided to deliver immediately by turning, Mr. Speedy accomplished the delivery with little difficulty or delay. We were not successful in restoring the child to life, although we could distinctly see for a time the impulse of the heart's action against its chest. The mother recovered without a bad symptom.

CASE VII. was one of complete placental presentation. The woman was admitted into the Western Lying-in Hospital on the 12th of April, 1846, in a very exhausted state from loss of blood; the membranes were ruptured, which not effectually checking the hæmorrhage, Dr. Churchill, on account of her exhausted state, &c., eventually delivered her by the crotchet on the evening of the same day. This woman had also a good recovery.

CASES VIII. and IX.—The two remaining cases were pa-

(*a*) Taking this view, M. Negrier of Angers insists upon the introduction of the plug *obturant* as the best, or even the only means to be relied on, for arresting hæmorrhage after delivery, when the placenta has been attached to the cervix uteri, especially if assisted by external compression over the body of the uterus.—*Recherches par Negrier*, p. 151.

tients that I saw delivered safely in the Dublin Lying-in Hospital, when a pupil, some years ago. The first was a case of complete placental presentation, in which instance the foot of the child was brought down. The second was an example of partial placental presentation, where the only treatment adopted was rest and the application of cold. The membranes had been ruptured before her admission.

Dr. Churchill, in his Midwifery, states the extreme risk attendant upon all operations requiring the introduction of the hand into the uterine cavity, which is, in his opinion, followed by more or less untoward results in almost every instance. Case v. affords a good example of the justness of this observation, although I must say that I attribute the bad consequence, in this instance, to have been more owing to the neglect of the attendants, in not removing her wet clothes for twelve hours after the operation, than to any injury inflicted on the soft parts during the manœuvre of turning. Besides the risk here alluded to, Dr. Simpson's plan is liable to still greater objections; the forcible extraction of an adherent placenta through an undilated os uteri being, in my mind, a much more dangerous operation than even that of turning, leaving out of view the certain destruction of the infant, which must inevitably result from the former plan when put into execution. How Dr. Simpson can include cases of the spontaneous separation and expulsion of the placenta, in his Table of Mortality, with those cases where artificial separation was resorted to, is to me inexplicable; the first being an entirely natural process, the latter an operation requiring considerable manipulation, and, no matter how delicately performed, one which must be attended with more or less violence to the cervix uteri.

That there may be cases where, from great loss of blood previously, it might be useful to extract the placenta (provided it was separated sufficiently) in order to hasten the labour, and to allow the presenting part of the child to come into imme-

diate contact with the bleeding mouths of the uterine vessels, I would not positively deny; although I never saw such a case, where turning was not practicable with safety to the mother, and where the immediate extraction of the placenta afforded the best, if not the only chance of saving the mother.

Let us now take Dr. Rigby's forty-three cases of placental presentation, quoted by Dr. Simpson in his table of mortality, and inquire into the particulars of those attended with a fatal result.

Case VII. was one of placenta prævia complicated with distorted pelvis, and, in Dr. Rigby's own words, she "had lost an immoderate quantity of blood, was greatly sunk, and appeared to be almost dying." Is it therefore any wonder that this woman did die, when we find that before opening the head, which could not otherwise be drawn through the pelvis, such extractive force was used as to separate several of the cervical vertebræ? (See history of case, page 107, Rigby on Uterine Hæmorrhage).

In Case X. the woman had been flooding two hours before Dr. Rigby saw her: "She had in that time lost a very great quantity of blood, and was so much sunk by it, that she died soon after I came into the room." So it appears nothing was done in this instance. He saw her too late. On examination, "the placenta was found situated upon the os uteri, and a partial separation of it, not bigger than a crown-piece, was the cause of this fatal hæmorrhage."

In Case XIV. the patient had lost an "astonishing quantity of blood, and had the most threatening appearance:" "her pulse was scarcely perceptible; her countenance was pale; her lips livid, &c.: the uterus was very little open." Turning was performed under these unfavourable circumstances: is it any wonder "she died about six hours after?"

Case XV. was bled by the surgeon who visited her first; and, when Rigby saw her, was so reduced by that, and from subsequent flooding, that "she seemed to be dying." "The

uterus was shut, though loose and relaxed;" yet turning was had recourse to as a forlorn hope. "She died in half an hour after delivery."

In Case xx. the woman died (under the care of a midwife) an hour before Dr. Rigby saw her.

His forty-seventh is the next case of placenta prævia, which proved fatal to the mother. This poor woman was under the care of *a midwife.* She had lost an "excessive quantity" of blood before he saw her, "and she was faint to an extreme." Version was effected without difficulty; but the placenta adhered so closely to the cervix uteri, that it took him an hour and a half to remove it. This woman died about twelve hours after.

Case lviii. proved fatal several days after delivery; the woman being attacked with fever on the third or fourth day, and died a few days afterwards. A midwife had been in attendance on this case for several days before Dr. Rigby saw her, and when he arrived he "found her very much reduced by loss of blood."

Case lxxxi. "The patient was a poor woman, and had been a long while under the care of a midwife before the surgeon was sent for." "An excessive quantity of blood had been lost, and she was reduced to the last extremity." "Though the turning was effected without the least difficulty, she did not survive it more than half an hour."

Case lxxxii. "This poor woman was about eight months gone with child; was forty-two years of age; of a very weak constitution; and had been ill of a malignant fever more than a week." He "found her very ill, with a small but very quick pulse. She appeared drowsy, and took very little notice of what passed in the room; and this, though she had been faint from the loss of blood, appeared to be principally owing to the stupor which was characteristic of her fever." She "fell a victim to the disease before the end of the week." Turning and delivery were effected with ease. Is it likely any other mode of treatment would have proved more successful?

Case LXXXIX. "This was a very weak, delicate woman." "I was not called to visit her," he writes, "until she had lost a great quantity of blood." It appeared that she was attacked with fever on the third day after delivery, "which she did not long survive."

Case XCVIII. is well worth the perusal of the reader; after which, I am sure, no candid person will attribute the melancholy result to the operation of turning, but to the miserable condition in which Dr. Rigby found her: he says, "she appeared to be almost expiring."

The above cases do not here require further comment; and I invite the reader who takes an interest in the subject to peruse their histories in full, and judge for himself whether I have not given a fair summary of the fatal cases. I find, furthermore, that Dr. Simpson gives only forty-two cases in his table as the result of Dr. Rigby's practice, out of which number, twelve were fatal. Now I make out forty-three in all, out of which number, after the most careful examination, I can only find eleven to have proved fatal, as the following summary abstracted from the total number of cases of hæmorrhage with their results (106), published by Rigby, will shew:

Of his forty-three cases of placenta prævia, thirty-two were successful, and eleven unsuccessful. The hæmorrhage in the other cases related by Dr. Rigby depended on accidental circumstances, such as the separation of the placenta from its normal situation: none of them proved fatal.

Dr. Collins reports eleven cases of unavoidable hæmorrhage, as having occurred during his Mastership of the Dublin Lying-in Hospital; of these, two mothers died after the child had been turned and delivered, "one from laceration of the uterus, and the other from the effects of the hæmorrhage both before and after the birth of the child." In both it was necessary to interfere under *unfavourable* circumstances. It is worthy of remark, that out of the eleven cases Dr. Collins saved six

children, and of the five still-born children two were putrid, and had evidently been dead for a long time(*a*). The same author observes: "I know of no circumstance *so much to be dreaded* as the forcible introduction of the hand where the parts are in a rigid or unyielding state." Now, with these facts before us, and on the authority of a physician of such extensive experience, a prudent practitioner of the present day should hesitate before he attempts to turn under such circumstances. What, then, are we to do? I maintain that it is equally dangerous, under like circumstances, to extract the placenta, as recommended by Drs. Simpson and Radford. Dr. Samuel Cusack, after describing a case of complete placenta presentation, where turning was afterwards resorted to, observes: "The most remarkable feature in this case was the great advantage found to arise by plugging the vagina; the os uteri seeming in the first instance too rigid to allow of turning being performed with safety to the patient." Now this is the treatment I would pursue in all cases of rigidity of the os uteri, due attention being paid to the condition of the patient, and to the precautionary measures already suggested, when speaking of the use of the plug in a former part of this paper. It is a question more difficult of decision, whether the plug is ever admissible after delivery, when the hæmorrhage continues. On this point I would be sorry to hazard an opinion, not having ever had occasion to try it; but do not see why it might not be used as recommended by M. Negrier, the binder being first firmly applied, and by its means the uterus prevented from enlarging. Dr. Campbell of Edinburgh possesses a record of twenty-two cases of placental presentation, where version was the treatment employed, "and with success to the parent in all of them, with one exception, in which more than six pounds of blood were lost before the patient was visited."(*b*)

In conclusion, I would suggest the following course of prac-

(*a*) Collins' Practical Observations, pp. 93, 100.

(*b*) The Northern Journal of Medicine for May, 1846, p. 258.

tice to be adopted in all cases of placental presentation, where the practitioner has been in attendance from the commencement of the hæmorrhage :

1st. In cases of partial placental presentation, he should avail himself of the earliest opportunity to rupture the membranes, and evacuate the uterus of all its fluid contents.

2ndly. In the same class of cases, after the escape of the liquor amnii, should vigorous uterine action not ensue, to encourage this desirable end by means of friction over the fundus uteri, the application of a binder, the administration of ergot of rye, or the use of galvanism, as recommended by Dr. Radford(*a*).

3rdly. In complete placental presentation, when the os uteri is rigid and undilated, never to attempt to extract the placenta through it in that state, but to plug the vagina carefully by means of a soft sponge, previously steeped in cold vinegar and water.

4thly. As soon as the os uteri has been sufficiently dilated to admit of the introduction of the hand, to seize a foot and deliver cautiously.

5thly. Should there be no doubt of the child's being dead, and the head presenting, it may be delivered by the crotchet, after lessening its head.

6thly. As I attribute the entire cessation of the hæmorrhage which occurred in Dr. Simpson's cases, and those of others, after the extraction of the placenta, to the fact of the uterus being thereby entirely emptied of its fluid contents, and allowing the presenting part of the child to be pressed against the bleeding orifices of the uterine vessels, that in certain cases the placenta might be pierced with a gum-elastic or silver catheter, and the liquor amnii thus allowed to escape. This operation is applicable to cases where the feet present, or where craniotomy is decided upon (in head presentations), either on account of distorted pelvis, or from the fact of the child being dead.

(*a*) Provincial Med. Jour., Dec., 1845; see also p. 300 of this Journal.