left eye, and that he could not raise the lid, and that he could scarce feel his left cheek or the scalp of his head, which felt as he stated as if *asleep*. Can we for a moment doubt that this attack was of the nature of apoplexy; in its mildest form perhaps, but nevertheless dependent on a lesion of some portion of the encephalic apparatus. It would be idle in the absence of all proof, to speculate upon the particular spot in the brain in which this lesion had occurred; it is more than probable, however, that the base of the brain must be the spot, but whether in the thalamus, corpus striatum, pons Varolii, or any other portion having relation to the roots of these nerves, it is useless to speculate upon.

Considering then this case to be in its origin cerebral, and possessing all the features of an apoplectic attack, with the formation of a clot in some part of the encephaloid mass, the treatment was based upon those principles which guide us in ordinary cases of paralysis from apoplectic causes. From the mildness of the symptoms, and the paralysis being so limited, a favourable prognosis was pronounced. It was hoped that the influence of mercury in alterative doses might promote the removal of the morbid influences acting on the nerves. With this intent, blue pill was given twice a day, in ten grain doses; and to check the intermitting character of the paroxysms of pain, which so violently affected him, quinine was combined with it. This treatment was pursued till the gums faintly indicated the influence of mercury in the system, and from that moment there was a daily and visible amelioration of all the symptoms. The paroxysms of pain first became less urgent; an increasing power over the levator palpebræ was soon evident, and the powers of vision were sufficiently improved to enable him to define the bars of the windows. The mercury was now withdrawn, and its place supplied with small doses of purified aloes, in conjunction with the quinine. You have seen the patient to-day; vision is not yet perfect; when the right eye is closed he can distinguish persons, but not clearly; he can number those standing before him, but he cannot clearly recognize features or colour with the affected eye. The restoration of the levator palpebræ is, however, complete; the two eyes exactly correspond, and he can raise and drop the left eye-lid at pleasure; the motions of the eye-ball are precise and regular, and the iris of the left eye is now equally sensible to the influence of light as the right.

As a specimen of local and partial paralysis from apoplexy, this case must be viewed as one of much interest; and it is equally so in respect of the influence that appropriate remedies exercise over the morbid cause of the paralysis; and to you, gentlemen, it is an example, I hope not thrown away, of the value and absolute utility of anatomical and physiological knowledge, in reading the mysteries of diseased action; for it must be clear to you, that if you did not know the distribution of the several nerves implicated, and were unacquainted with the peculiarity of the special functions they severally perform, it would have been impossible for you to interpret the source from whence these symptoms were derived.

ON THE MEANS BY WHICH UTERINE HÆMORRHAGE IS SUPPRESSED WITHOUT ARTIFICIAL ASSISTANCE.

By THOMAS RADFORD, M.D., Consulting Physician to the Lying-in Hospital, &c., Manchester.

A knowledge of the inherent powers of the living body to stop hæmorrhage from the uterus, is of the highest importance to the obstetrician. Without an intimate acquaintance with their mode of operation, he can never practise successfully. All the principles of our art ought to be based on a clear and comprehensive knowledge of the plans adopted by nature when danger exists and threatens the destruction of life. On this account I have not hesitated to lay a brief statement of them before the profession. Although the following observations may not possess the attraction of originality, yet I believe, that every well-thinking and judicious practitioner will admit the value of such, if judiciously made. The following is an enumeration of the natural anti-hæmorrhagic powers:—1st, syncope; 2nd, coagulation of the blood; 3rd, effusion of lymph and obliteration of the vessels; 4th, re-union of the detached portion of the placenta to the uterus; 5th, death of the child; 6th, uterine contraction; 7th, spontaneous rupture of the membranes; 8th, spontaneous separation of the placenta.

Complete or partial syncope sooner or later is induced when blood is discharged from the vascular system; the difference depends on a variety of contingent circumstances which may exist at the time. When we wish to make a quick and powerful constitutional impression by venesection, we make a larger orifice, so that the blood runs *pleno rivo*. We place our patient erect; and if of feeble constitution, or if the habits are bad, the effect is sooner produced, and continues longer. So in floodings, we find the relative effects very different; some women bear an immense loss without apparently suffering much from it, whilst others rapidly succumb from the same or even a less amount of discharge. Sudden and profuse gushes of blood speedily produce fainting, but slow and dribbling hæmorrhages continue for a considerable length of time without producing this effect. Although these latter kind of floodings do not so suddenly depress the vital powers, yet they insidiously undermine them, and in many of these cases the life of the patient is ultimately placed in more jeopardy than in those of the former class, provided the patient is not immediately destroyed.

Great caution is necessary not to allow a principle, based on false security, to lead the practitioner to procrastination in adopting active measures; his judgment ought not to be led astray by the quantity of blood which has been already discharged, or is now being lost, but he should invariably direct his attention to the influence produced on the vital powers, as the immediate and remote effects of loss of blood are relatively

so different in different women. These different relative effects depend on a variety of circumstances,—on the age, habits, and constitution of the woman; on the condition of the brain and general nervous system; on the functional and structural organic state of the thoracic and abdominal viscera; on the state of the uterus; on the position of the patient when the accident happens; and on the mode by which the blood is discharged, &c. When we are considering syncope as a natural and sanatory effect, capable of producing such favourable changes in the general circulation, and also in the vessels from which the blood is poured, which tend to suppress the hæmorrhages, we ought not to overlook the fact that syncope is sometimes the precursor or harbinger of death.

Our diagnosis here should be as exact as possible, to judge between salutary and mortal syncope. If this state of the vital powers is produced by a large and sudden but not continued gush of blood, or by a less quantity lost when the patient is in the erect position, then conditionally it may be considered as likely to be useful. But if, on the contrary, the hæmorrhage has been going on for a long time, although slowly yet insidiously, and thereby at last producing the accumulated effects of loss of blood upon the system, we must view it as the prelude of death. By its salutary power the action of the heart and arteries is at first totally suspended, and afterwards lessened in force and frequency, by which less blood is sent to the uterus, and time is afforded for coagulation to take place within or in the immediate vicinity of the vessels.

When blood is effused it speedily coagulates if their exists any substance which affords a *point d'appui* for the commencement of this process. It is said by physiologists, that the blood is more disposed to assume this change in case of excessive hæmorrhage. When one of the umbilical arteries or veins is ruptured within the substance of the placenta, and the structure of the uterine and foetal surfaces are uninjured, the effused blood being confined soon forms a clot, which effectually stops further bleeding. Other similar accidents happen during the same pregnancy in different parts of the placenta. But if the injury extends through either surface coagulation does not so easily take place, as the blood so readily escapes externally into the vagina, or internally into the amnion bag, according to the situation of that portion of the organ which is disrupted. The characters of clots which form and are seen in the substance of the placenta vary according to the length of time which has elapsed since the accident. Sometimes hæmorrhage happens between the uterus and the placenta, and is confined in the centre by the circumference of this latter organ firmly maintaining its adherence. If this effusion is not great, coagulation takes place, and subsequent changes are accomplished, so that pregnancy goes on.

In disruptions of the placenta the coagula form in

its interstitial structure. In several fatal cases of *post-partem* hæmorrhage in which I have examined the uterus after death, I have found a small portion of adherent placenta, whose structure was so entirely pervaded with coagulated blood as at first to be mistaken for a clot; but on a more minute examination its true character was discovered. In another fatal case of this kind the practitioner in his report of the *post-mortem* examination, represented the infiltrated portion of placenta as a polypus. Coagula form within the uterine venous openings, upon and in the interstitial tissue of the placental tufts which enter into them, and are found left after the separation and expulsion of the placenta. The meshes of the decidual membrane afford a surface on which coagula form and adhere. Dr. Blundell and other writers speak in the highest terms of the anti-hæmorrhagic powers of the large clots of blood which form in and fill the vagina, but which in my opinion are overrated. Although I do not admit that they prove as valuable a resource in flooding as has been mentioned, yet I would caution the obstetrician not to rashly remove them, for if they do not directly arrest the bleeding, they indirectly assist by giving support to those formed above in the interstitial, placental, and decidual substances, which are of the greatest utility. Nevertheless, the presence of coagula in the vagina ought never to interfere with our more important duty to explore, so as to ascertain the condition of the os and cervix uteri, the presentation of the child, or if the placenta is anormally fixed.

The important and valuable principles first fully developed by Dr. Jones, are admirably and indeed effectively adapted to prevent bleeding from arteries laid open by injuries, or by surgical operations in other parts of the body, but are not applicable in cases of uterine hæmorrhage. Although the uterine arteries have a similar organization to that possessed by those elsewhere situated, yet they differ in size at different periods and perform very different offices, in the ungravid, in the gravid, and during the parturient and puerperal periods.

It is stated by some writers that a re-union takes place between the uterus and the detached portion of placenta, and that a return of flooding is thereby prevented; but my opinion is entirely at variance with this assertion, and from a great number of observations made by examination of the placenta after its expulsion, I am convinced that a recurrence of the hæmorrhage from the placenta is alone prevented by a change which takes place in the organization of the detached portion.

The death of the child in utero may be immediately produced by hæmorrhage, or it may more remotely happen by the impairment which its organic system has sustained. But it is not to be understood that the child is invariably or inevitably destroyed when hæmorrhage occurs, but on the contrary, it is born

alive in the great majority of these cases. However, statistics shew that this event happens sufficiently often to justify the opinion that I have formed, that flooding does not take place, or if it does, it is very moderate in degree in such cases. Under normal circumstances, the utero-placental and the placento-fœtal circulations exercise a reciprocal, although not an equal, influence on each other; and that there exists on the part of the placento-fœtal, a great and essential derivative power. But the death of the child, immediately to a certain degree, and ultimately altogether, changes the functional and structural conditions of the placenta. "The stimulus of necessity" on the part of the child for a supply has ceased, and consequently is altered. The arteries convey to the uterus less blood, and so there is less accumulated in the veins to be returned to the general circulation. The passage of blood is most likely first stopped in the umbilical arteries; and very soon after, if not simultaneously, that through the umbilical vein also ceases, and consequently both the arterial and venous ramifications in the placenta would have no blood passing through them.

The placenta would therefore at first be in a somewhat similar condition to that which exists after the birth and separation of the child; but after a short time it undergoes farther progressive changes in its organic condition. Its structure becomes less spongy and more firm; the calibres of the vessels are lessened and filled with fibrin; its decidual surface has a dried and shrivelled appearance, and is dotted with small coagula of different aspect, some being recent, while others look old and fibrinous.

During my practice I have attended a great number of labours in which the child was dead, and I have invariably observed, that there was little or no sanguineous discharge when the placenta was expelled, or afterwards, as that which is termed the lochia. There were four cases of placenta prævia in this number, which I shall briefly cite.

In one case the hæmorrhage happened at the sixth month. Cold water, &c. &c., and the plug were used; opium was administered, &c. These means effectually restrained the bleeding. It however returned with violence in a fortnight, and again the same plan was successfully adopted. After this time the movements of the child became gradually more imperceptible, and at last ceased altogether. Six weeks after the first attack of the hæmorrhage labour came on, but there was no bleeding; the placenta separated on one side, so that the head passed by it. When the child was born it had the appearance of having been some time dead; the placenta was also considerably changed; there was no farther loss of blood.

In the second case an excessive hæmorrhage happened at the seventh month; there were no pains. Plugged successfully, cold applications, &c. In a month

the bleeding recurred, but as there was no evidence of labour, the plug was introduced, and the means before-mentioned used. The hæmorrhage ceased. The death of the child was indicated by the usual mammary changes, &c. At the end of a fortnight labour pains came on, and as the os uteri allowed, I passed the hand, separated the edge of the placenta, and turned and delivered the child, which had evidently been dead some time. There was no flooding.

In the third case the flooding first took place from the seventh to the eighth month, and was afterwards several times repeated. The last attack was so violent as to threaten danger. The os uteri being rigid, the plug was introduced, an abdominal bandage applied, &c. She never felt the child after the last attack. The labour did not come on for a fortnight, but there was no farther loss of blood.

The fourth case was excessive flooding at the eighth month. There being no signs of labour, and the os uteri being firm and undilated, the plug was introduced, and the abdominal bandage applied, &c. The child had been vigorous up to this date, but since has not been felt to move. She went on to her full period, and as there was no flooding, the placenta was partially detached, the membranes ruptured, and the uterus acting well, the case was left to nature. The child was putrid, and the placenta was much altered. No after discharge occurred.

The gravid uterus mainly consists of muscular fibres, which are greatly developed at the end of pregnancy. The blood-vessels, arteries, and veins, have acquired a great size,—especially the veins. The muscular fibres are longitudinal, circular, and oblique, each set being interlaced with the others. Portions of this tissue are intimately distributed around the arteries and veins, and indeed the outer coats of these latter vessels are composed of it. The arteries, which are considerably elongated, take a spiral and tortuous course through this texture; the veins are situated in different tiers in it, and each division freely inter-communicates by oblique openings with each other, and with those which lie nearest to the uterine cavity. Mr. Owen makes the following appropriate remarks:—

"Every vein, however, when traced to the inner surface of the uterus, appeared to terminate in an open mouth on that aspect; the *peripheral* portion of the coat of the vein, or that next the uterus, ending in a well-defined and smooth semicircular margin, the central part adhering to, and being continuous with, the decidua. In the course of this dissection I observed that when the veins of different planes communicated with each other in the substance of the walls of the uterus, the central portion of the parietes of the superficial vein invariably projected in a semilunar form into the deeper-seated one, and when (as was frequently the case, and especially at the point of termination on the inner surface,) two or even three of these

wide venous channels communicated with a deeper sinus at the same point, the semilunar edges decussated each other, so as to allow only a very small part of the deep-seated vein to be seen. It need scarcely be observed how admirably this structure is adapted to ensure the arrest of the current of blood through these passages upon the contraction of the muscular fibres with which they are every where immediately surrounded."—Note to the paper, "On the Structure of the Placenta," in John Hunter's works, edited by Palmer, page 68.

Mr. John Goodsir passed a probe into a vein, and then slit it up with scissors, and repeated the same plan whenever he found the entrance of another branch. He found the anastomosis of the veins increase as they approach the internal surface of the uterus. "The spaces which they inclosed, presenting the appearances of narrow flat bands. At last, in introducing the probe under the falciform edges of the venous orifices, it was found to have arrived at the placental tufts, which could be seen by raising the edges of the falciform edges, &c."

The tissues of the fundus and body of the uterus are first developed, and afterwards the cervix and os. These changes are progressive, and gradually enlarge the cavity as the fœtus and appendages increase in size. In normal pregnancy the muscular fibres are quiescent, and passively yield to this law, which has been imposed on the organ for the safety and growth of the ovum; but as soon as the fœtus is matured, so that it is capable of extra-uterine existence, a new law predominates, and contraction follows. The body and fundus being more muscular, are endowed with greater irritability and contractility than the cervix, and at first they are chiefly employed in expulsion. Some writers deny the existence of muscularity, and consequently contraction, in the cervix, but the great majority admit that it is possessed of a great number of circular and some few longitudinal fibres. Its first change in labour is to dilate, to allow the passage of the child and secundines. This is said by some to be the effect of a wedge, formed by the membranes, mechanically forced down by the power above. Others again say it is a muscular act. My opinion is that it contracts when required in the process of labour. Normal causes applied induce irregular contraction. Dr. Campbell says that a contraction of this portion of the uterus is mistaken for what is described as hour-glass contraction of the body of the organ.

Normal uterine contraction, which is of two kinds,—first, temporary or alternate,—secondly, permanent or tonic, is able to perform the parturient function when every circumstance which acts directly or indirectly upon this process, is equally favourable for this end. By its power the child and placenta is expelled, and the woman is secured against the dangers of flooding. It must not be partial in its operation,

in order to achieve these important objects; but it must be universal; every muscular fibre must be actively engaged to afford a sanatory and protective influence. It is necessary to remember the length and tortuous course of the arteries, and also the course, relative position, and the peculiar valve-like openings of inter-communication of the veins; the imbedment of these vessels in the muscular tissue, and surrounded by it. We must also not overlook the fact that the calibre of these vessels is fully occupied by the blood passing in this state through the parietes of the full gravid uterus, whose superficies is extensive. Then we can be at no loss to understand why uterine contraction is so powerfully anti-hæmorrhagic. The measurement of the surface of the gravid uterus at the end of pregnancy or beginning of labour, compared with the same organ when regularly and tonically contracted after the expulsion of its contents, is very different indeed. Dr. Blundell emphatically remarks that the muscular fibres act as so many ligatures upon the vessels.

Notwithstanding the beautiful adaptation of the means to the end, when all is in a normal state, we frequently find in practice that there are constitutional and local conditions,—physical and moral causes, which produce upon the uterus anomalous effects; and hence we find its action perverted, or altered in power, and in some cases altogether suspended. This anomalous state of uterine energy exists in every degree, and comes on at all times during or after labour, constituting what is usually called cases of complete or partial atony, or irregular contraction. Partial contraction assumes the character of spasm, and may seize any portion of the uterus to any extent, and to any degree of intensity. The fundus may firmly contract, whilst the body and cervix are in a relaxed state; the circular fibres of the body may contract, and yet the fundus and cervix be uncontracted, and thus constitute hour-glass contraction. Sometimes the os and cervix contract, and the upper portion of the organ is atonic, thereby affording a shut-up cavity, in which the placenta is sometimes incarcerated, and sometimes a large quantity of blood is effused into it, which is called internal flooding.

Different sets of muscular fibres irregularly and successively contract, and change in such a way as to form small chambers, which open out of the general uterine cavity. I will briefly cite a case selected from many others, illustrative of the capricious state (if I may use the term,) of the muscular fibres. I was requested by Mr. P., to visit a patient who was flooding, one child being born, and another thought to be still in utero. Upon my arrival the hæmorrhage continued. On placing my hand on the abdomen, I found the uterus large and generally doughy; about the middle was a hard and resistant portion, at the boundary of which there was felt a vacillatory sensation, which

continued some time; it yielded in a short time, and another hardened portion was found. The sensations produced by these contractions led to the notion of the existence of a second child. I now introduced the hand, and only found the placenta and some coagulated blood. My attention was called to a circular opening at the anterior part of the womb, through which I could pass two fingers; to my surprise this spasm yielded, and was soon succeeded by a similar state in another part. I endeavoured to produce uniform contraction, but this migratory irregular action continued for some time, notwithstanding a large dose of laudanum was given.

Irregular contraction of a portion of the uterus in the vicinity of the placenta causes partial separation of it, and flooding happens. Again, one portion of the uterus in the same neighbourhood may be atonic, and the rest of the organ well contracted, and so flooding continues. Whenever and by whatever cause a partial contraction of the placenta happens, irregular contraction of a portion of the uterus is nearly sure to take place. Spasm or irregular uterine contraction, causes hæmorrhage in two ways,—first, by directly producing a partial disunion of the placenta from the uterus; secondly, by acting mechanically, so as to impede the free return of blood along the veins to the heart. In all cases of flooding, except when the placenta is anormally fixed to the uterus, regular, equal, and firm uterine contraction will always secure the patient against the dangers of the accident. I hesitate not to say always, because an extensive hospital practice has enabled me to speak positively on this subject. But if the uterus is in any degree atonic, or its action irregular, however partial, hæmorrhage will happen, which can alone be arrested by restoring uniform contraction, or an equilibrium of action throughout the entire uterine muscular tissue.

These remarks are made with a knowledge of Dr. Gooch, Dr. Rigby, Dr. Ingleby, and Velpeau's opinions. Dr. Gooch relates a case of *post-partem* hæmorrhage, in which he says the uterus was firmly contracted, and depended on the exalted state of the general vascular system.—“*Medico-Chirurgical Transactions*,” vol. xiii., part 1. Mr. Robertson has already shown that Dr. Gooch's inferences are not true, (*North of England Journal*;) I, however, do not think that he has explained the cause of the discharges in Dr. Gooch's case, in supposing that the uterus relaxed. My opinion is that there existed irregular contraction, some portion of the organ being in an atonic state, not accessible to Dr. Gooch's hand externally applied on the abdomen.

In placenta prævia the hæmorrhage is increased by uterine contraction, as long as the placenta is partially adherent.

Spontaneous rupture of the membranes, and the

discharge of the liquor amnii, induces uterine contraction, which effectually restrains hæmorrhage in the majority of cases of accidental, and in those cases of unavoidable, floodings which are caused by a partial implantation of the placenta over the os uteri.

The natural powers are equal to the achievement of most important ends during labour, when mechanical causes exist which oppose the passage of the child in labour.

When the placenta is placed centrally, or nearly so, over the os uteri, it is sometimes spontaneously expelled before the child, an event which happens more frequently than has been usually supposed by obstetricians. Hippocrates was acquainted with the fact that the placenta is sometimes spontaneously expelled before the child, and knew the danger of this event to the child. He says, “that the after-burthen 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.” The father of medicine no doubt knew that the coming forth of the after-birth before the child, was not attended with the same risk to the mother as to her offspring, or he would have recorded his opinion upon this point.

Obstetric writers up to comparatively a recent date, since the time of Hippocrates, have not mentioned this subject, although they must have met with cases, and have been acquainted with his writings. Whenever the placenta is partially detached in cases of placenta prævia, and the child is still alive, hæmorrhage inevitably happens. The quantity of blood discharged is not always the same, but is more or less profuse, according to the concurrence of a number of contingent circumstances. Sometimes the discharge is very excessive when the placenta is only slightly separated, and sometimes the hæmorrhage is moderate when the placenta is extensively loosened. But the aspect of matters is changed by a complete separation of the placenta; the variation in the degree of discharge marked above, is not now observed to exist; there is a total cessation of the bleeding, and it forms an exception to the general rule when hæmorrhage happens after the placenta has been completely loosened from its attachments, and protruded from the uterus into the vagina.

On the 10th day of December 1844, I delivered a lecture on galvanism applied to the treatment of uterine hæmorrhage, in which I then stated that without any great pains I had brought forward before the profession “thirty-six cases illustrative of her (Nature's) powers, in expelling the placenta before the child.” This number might have been very considerably augmented by bringing cases which were then already published, but my object was not to make a great parade of authorities, but only to mention such as were in the reach of every obstetric practitioner. At the time, I made the following remarks:—“Now, the bulk of these cases, gentlemen, have been detailed without any

specific practical object, and, consequently, are more valuable to my present purpose than if they had occurred to myself, and had been brought forward to serve my own particular views. You may refer to many of them yourselves, and you will find in nearly all of them that the hæmorrhage was suppressed after the placenta was thrown off."—*Provincial Medical and Surgical Journal*. 1844. p. 603.

Since then Dr. Simpson published (in the *London and Edinburgh Monthly Journal of Medical Science*, No. 51, March, 1845,) tables of 141 cases, some of which, however, were not cases of spontaneous expulsion. These tables include those cases which had already been brought forward by me, and some others which were afterwards communicated by me.

By the kindness of several professional gentlemen I have collected sixty, which shew the following results:—In all, the hæmorrhage was great before the placenta was loosened; in fifty-five of this number it was completely suppressed after the separation of the placenta; in three it continued, of which in two it was slight, in one it was profuse; in thirteen the placenta was forcibly expelled followed immediately by the child; in twenty, two to three hours elapsed; in twenty-seven the child was turned and extracted immediately. Forty-five women recovered, fifteen died. Fifty-five children were lost, five only living.

In the above mentioned cases there is only one in which flooding to any degree continued after the placenta was completely separated, and this proved fatal. In the remaining number of those who died, the fatal impression was made before the separation was accomplished. In a few cases already published slight hæmorrhage continued, and some deaths occurred not dependent on the after bleeding, but as above mentioned from the effects produced before. These cases must not be allowed to invalidate the inference, "that hæmorrhage ceases when the placenta is completely separated." We can readily understand why this should happen if we physiologically investigate how the utero-placental, and the placento-fœtal circulations are carried on.

When a partial separation of the placenta takes place whilst the fœtus in utero is still living, hæmorrhage is sure to occur, because two sources exist from which blood can escape. (*Vide Lancet*, No. 9, February 27, 1847.) One current of blood comes through the medium of that portion of the placenta which still adheres to the uterus, and is discharged from the surface of that portion of the placenta which is detached; the supply of blood is demanded by the child from the maternal system, and when sent, it cannot from the nature of the accident return, and therefore, is lost: the other current of blood which runs away, comes from the uterine venous openings. But when there is complete disjunction of the placenta from the uterus, the case stands quite different; no maternal blood can

be discharged from the placenta, because it is now placed in the position of a foreign body, having no structural or physiological relation to the womb. Rupture of the membranes either simultaneously happens, or precedes the separation and expulsion of the placenta, except in cases where the entire ovum is expelled at once, which very rarely occurs. The uterine contraction, which must at this time have been strong, is now increased, which brings the presenting part of the child to occupy the lower segment of the uterus, and to bear mechanically on the exposed venous openings. The calibres of the vessels are also diminished.

Notwithstanding the truth of the above conclusion,—that complete detachment of the placenta suppresses hæmorrhage, yet we must not allow ourselves to fall into serious error to wait in expectation of such an event,—because, first, there do not exist signs which will lead us to expect such a termination; secondly, the vital powers may be completely sunk before the separation is achieved. Hamilton, Collins, and Dr. Ramsbotham, senior, were all acquainted with this fact.

March 10, 1847.

OBSERVATIONS ON THE TREATMENT OF ORCHITIS BY COMPRESSION.

By GEORGE FREDERICK WILLS, Esq., Surgeon,
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The beneficial effect of pressure in cases of inflammation of the testicle has been for sometime generally known, but from some cause the practice is not so extensively followed as we should be led to expect from the excellent consequences which have resulted from its employment. The fear of producing such an aggravation of the sufferings of the patient, as would counterbalance any good effect which this mode of treatment may exercise on the disease, has been made an excuse for not employing it; and some have argued that where a little pressure increases the pain and thus augments the sufferings of the patient, the employment of constant and firm pressure must necessarily do a proportionate degree of harm. But experience tells us this is not the case, and although the remedy seems severe, it in reality is not so, for it greatly alleviates pain, while at the same time it subdues the disease. I believe that if this mode of treatment were more generally followed, we should find that the number of cases with chronic enlargement of the testis would be far less than at present.

It may be asked, what are the advantages which this mode of treatment possesses over others? It will therefore be as well to refer to the methods in general use and point out some of the inconveniences, if not disadvantages which arise from their employment.

Bleeding is seldom useful except when there is much inflammatory fever. *Leeches* have been the favourite