PROVINCIAL MEDICAL & SURGICAL JOURNAL.

EDITED BY DR. HENNIS GREEN AND DR. STREETEN.

No. 21. Vol. I.] LONDON, SATURDAY, FEBRUARY 20, 1841.

PRICE SIXPENCE.
[STAMPED EDITION SEVENPENCE.]

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LIVERPOOL MEDICAL INSTITUTION.

January 21, 1841.

Dr. FRECKLETON in the Chair.

MR. NEILL stated, that he had lately seen cases of a rare disease of the eye, namely, polypous granulations growing round the edge of the cornea, occasioned by the intense irritation produced by lime having been thrown into the eye. Some of these granulations had peduncles, and were removed by excision. He described the action of lime on the eye to be the most deleterious and destructive of any that he knew. Mr. Neill gave it as his opinion that the operation for the cure of strabismus was not likely to be so successful as had been represented. Several patients had applied at the Ophthalmic Infirmary, on whom the operation had been performed without success.

Several members gave instances of the successful performance of the operation.

MR. BLOWER said, that he had operated on seven cases, in five of which he had succeeded in removing the deformity, but not in the other two.

MR. BANNER then read the following paper—

ON IRREGULAR ACTION OF THE UTERUS DURING PARTURITION.

The extent to which the ergot of rye is administered for the purpose of hastening parturition, and the many lamentable instances of its injurious effects, have induced me to endeavour to show that the very cases in which it is looked upon as most useful, and best adapted, are, of all others, those in which it cannot be administered with safety. The advocates for this remedy generally admit, I believe, that the cases which are denominated *tedious*, are those in which the ergot of rye is found most useful, and that it is in such principally that this medicine should be given. In order that this question may be fairly laid open, we will, in the first instance, consider the nature and character of the organ the medicine is to influence. It is, perhaps, superfluous to notice how great a discrepancy of opinion has existed, as regards the structure or organization of the uterus; the opponents of Hunter, Bell, Velpeau, and Rosenberger, have done little towards proving the non-muscularity of the uterus, and it now remains the usually received opinion, that this organ is capable of great muscular action. The question connected with the peculiar power of action has caused the difference of opinion which exists relative to the direction the muscular fibres take; Meckel, and several German anatomists, contend that they form an internal and external layer, and Ruysch that they form an orbicular muscle at the fundus; and Hunter and others that the fibres are much intermixed,

diverging in many directions; Boudelocque, that they form fasciculi parallel to the axis of the uterus, or longitudinally, or in circles placed horizontally; that the body and fundus are principally formed by the first, and the neck by the second. Velpeau's description of the structure of the uterus is to this effect,—first, there exists under the peritoneal coat a thin, dense, elastic, cellulo-fibrous layer, in which the fibres have not a fixed direction; secondly, a thick layer of transverse fibres, united similar to the constrictors of the pharynx; the fibres are longitudinal and oblique on the neck and internal surface of the organ; these layers have for a base a cellulo-fibrous tissue, surcharged with fibrine; the fleshy tissue is developed in this substance, as in the intestines, and the uterus appears to result from the reunion of two cylindroid canals. It has been proved, then, that the uterus is composed of muscular fibres, which, from the diversity of their directions, must have a very strong expulsive power when acting regularly and uniformly; and may we not likewise conclude, that when one set, or layer, of fibres act, while another remains quiet, or irregular in their contractions, the power of the uterus must be rendered unequal, and consequently slow in its expulsive efforts?

There are three general causes which may induce tedious labour,—first, if the action of the uterus be weak or irregular; secondly, if the aperture, whether of the pelvis, os uteri, or vaginal passage is contracted; thirdly, if the head of the child is unusually large: either of these circumstances will retard the progress of labour, and to one or more of these is to be referred every variety of tedious labour.

It will not be necessary to particularize each predisposing cause of *tedious labour*. Those which act most forcibly are mental emotion; constitutional debility; the febrile state of the system, which sometimes precedes and accompanies labour: these are the causes which generally produce a sluggish and irregular action, in which state the ergot of rye is given. If it can be proved, then, that in these cases there is irregularity of action, it must be admitted, that in a very large majority of tedious labours the ergot is the remedy of all others which should be held back; for by its administration in such cases, what is effected? Certainly an increased power in the organ, but, at the same time, an increase in the irregularity of action. We may naturally conclude that those fibres already in action will have their power greatly increased, whilst those which have been dormant will, perhaps, be scarcely excited at all. Denman says, "Should all the parts of the uterus act with equivalent force at the same time, the united action would contribute to the expulsion of whatever may be contained in its cavity; but if one part,—the inferior, for instance,—

act when the other is at rest, a contrary effect will be produced." The forms which the uterus may assume in consequence of this irregular action are innumerable; but the most common is the longitudinal, which is produced when all the parts except the fundus act; or the hour-glass, where the middle of the uterus only acts.

If the power of the uterus be increased by this medicine, but, at the same time, there be an increase in the irregularity of the action, what may result? First, The uterine parietes contracting violently, and almost unceasingly, compress the vessels, and interrupt the circulation between the placenta and child; secondly, the placenta may be disengaged some time before the birth of the child, in both instances causing death; thirdly, the increased action at the centre of the uterus causes hour-glass contraction and retention of the placenta, after the birth of the child; fourthly, the severity and long continuance of the pain, in irritable habits, causing convulsions. Such are the conclusions come to by one who has experienced these results in his own practice; and from the many instances related to him, by others of greater opportunities, feels satisfied in the main they are correct.

One of the greatest advocates for this medicine informs us, "that the parturient process must have commenced; the os uteri be considerably dilated, or dilatable; the presentation natural, and the digestive organs in a healthy state. If this simple but important rule were followed, we should have heard much less of the failures of this medicine." And he further writes, "I will state the remaining cases in which it is of invaluable service.

1st. The labour must be natural and somewhat advanced, or, in other words, the pelvis must be natural; the vertex, the presenting part, and the os uteri, dilated, or dilatable; this is the general rule. Thus in presentation of the nates, or breech, and in cases of hæmorrhage, in what is called the natural presentation, forming the *complex* labours of some writers, in cases of hour-glass contraction, and adherent placenta, this medicine is most effective. Besides effecting these important objects, it saves the medical attendant much time. I am fully sensible of the great responsibility which every man ought to feel when giving evidence upon a subject which involves the welfare and lives of such a great proportion of society; and it is this feeling, and the firm conviction that the injudicious employment of this medicine is now productive of incalculable mischief to science and humanity, &c." From the foregoing quotations we may infer, that the only cases in which the medicine is applicable, are the sluggish state of uterus caused by constitutional debility; and here the *digestive organs* can scarcely be supposed to be in order, or in a presentation of the nates, or hæmorrhage accompanying natural labour. Hour-glass contraction, and retention of the placenta are often the result of this medicine, as is proved by the experience of many. In most cases of tedious labour depending on irritability of the uterus, certain symptoms manifest themselves, indicating the state of the uterine action; for instance, pains coming on at intervals, like proper pains, but confined to the belly, having little effect on the os uteri, with slight expulsive efforts. Again, when pains are referred to the neck of the uterus, which is the case when the patient describes all her pain to exist low down in front, or far within the vaginal passage, the contractions in both instances do not go off, as in ordinary cases, but continue until the next paroxysm; hence a band of fibres still compresses the head, and if the liquor amnii has not escaped, the membranes are kept tense; and in most instances of tedious labour, where the pains are referred to the back, we observe the slight advance made, in proportion to the strength and frequency of the pains;—(the expulsive efforts are not equal to the strength of the contractions, proving the irregularity of this uterine action. In such cases the patient often becomes exhausted and worn out, and the medical attendant, in very many instances, administers the ergot of rye; the os uteri being, perhaps, fully dilated, or the head even resting on the perineum,

which, of all cases of tedious labour, is the one recommended for its administration. And what is the result? The irregularity in the action is increased; at the same time, it must be admitted, that by increasing the muscular contractions, even though they are irregular, we expedite the delivery. But what risks we run in effecting this! the death of the child, retention of the placenta, or convulsions, and many other serious evils which we read of, such as rupture of the uterus.

Tedious labour may arise from another cause, in which the ergot may be considered beneficial, and which has been noticed previously—the debilitated habit. A woman may be greatly reduced in strength previous to labour; that process is looked forward to by her with an anxious apprehension; the labour is protracted; the head at length reaches the perineum; the pains have little effect in protruding it, and it becomes a question whether she shall be delivered. This case differs widely from that where the difficulty proceeds from a contracted pelvis; the head is low down; the bones are not crushed or mishapen; there is only swelling of the scalp; the finger can be passed round the head; and we are led to imagine, from the state of things, that a few good pains would expel the child. Our ablest writers on this subject inform us, that whilst the strength remains good, there is no warrant for delivery; and recommend a soothing treatment, promoting rest, restraining voluntary bearing down efforts. Such a treatment is generally successful; but should the labour be still protracted, the strength more reduced, the pulse weak and frequent, and the pains useless, it then becomes necessary to give assistance, but we must be cautious with regard to the kind of assistance we employ.

I had a case similar in its bearings to that just referred to. The lady was 21 years of age, was advanced to the full period of utero-gestation, having, eighteen months previously, given birth to a living child, after a natural and easy labour. During the greater part of the present period of utero-gestation, she had suffered from debility and much restlessness. When called to this case I was told that she had been in labour nearly the whole night. She described the pains as never off her, and not of the expulsive kind she had experienced in her former labour; they were principally confined to the belly. On making an examination, the os uteri was found dilated to the size of half-a-crown; the membranes protruded slightly, and were sufficiently tense to prevent the presentation being ascertained; for although the intensity of the pains went off, yet the uterine action continued, and the membranes remained tense, and it was not until after the third attempt that the head was felt presenting, but at a considerable distance from the os uteri, which was soft and yielding. This labour progressed very slowly; after the expiration of twenty-nine hours the head rested on the soft parts, at which time the uterine efforts were very feeble, the patient much exhausted, and very restless; the labour was so advanced that it appeared as if a few good pains would expel the head. This case was thought a fair one for the ergot of rye; three doses of the powder, of one scruple each, were given, twenty minutes elapsing between each dose; it was not until a short time after the third dose had been given that the pains became strong and unceasing. In about three quarters of an hour the child was expelled alive, the patient still complaining of spasmodic pain.

In about ten minutes after the birth of the child the patient was seized with convulsions, accompanied with uterine hæmorrhage; an attempt was immediately made to disengage the placenta, which was firmly retained at the fundus of the uterus; the contraction (apparently at the centre) was at length overcome, and the placenta removed; the patient remained convulsed for about fifteen minutes, and then recovered, and the hæmorrhage ceased. In two hours she was again seized with convulsions and hæmorrhage, which were overcome by the timely aid of my friend Mr. Bevan; a third attack took place in about four hours, when they entirely ceased. The remedies employed in

this case were such as to leave the patient in a very weak state for several months. This patient has subsequently given birth to another child, after a tedious labour, but recovered favourably.

Now, in the case just related, there can be no doubt but that the tediousness of the labour was owing to an irregularity in the action of the muscular fibres of the uterus, and that it was not a case for the ergot; this medicine had the effect of increasing the pains and causing expulsion, but it also had the effect of producing hour-glass contraction and convulsions. The voluntary muscles derive their nerves mainly from the spinal marrow; still, from the close sympathy subsisting between the uterus and the cerebro-spinal system, through the medium of the nervous ganglia of the great sympathetic, irritation may be directly excited adequate to produce the most alarming forms of convulsions; and a retention of the placenta must be very frequent, where the labour has been tedious from irregularity of action.

Mr. Chevasse, surgeon, of Birmingham, has written an interesting paper on the *secale cornutum* in the *PROVINCIAL MEDICAL AND SURGICAL TRANSACTIONS*. He therein endeavours to prove that the ergot is a frequent cause of hour-glass contraction and retention of the placenta, and a still more frequent cause of death to the infant, when this medicine is improperly administered. The first case he relates is one in which, after a considerable lapse of time, the pains became very frequent and very inefficient; the os uteri being dilated to the size of a five-shilling piece, the edges thin, the lochial discharge free, and the external parts disposed to yield; the child strong and lively. He thought the case a fair one for the ergot, and gave two scruples of the recently powdered substance in water; nearly twenty minutes elapsed (the patient in the interval being almost free from pain) before the effects of the ergot became apparent. The patient now began to complain of great pain and uneasiness in the hypogastric region, different (to use her own expression) from any thing of the kind she had experienced before. The pain increased in frequency and strength, till at length they became continuous and violent, lasting a full half hour, when they ceased altogether, and the patient grew restless and anxious. From this period the motions of the child were no longer perceptible; and, on examination, Mr. Chevasse found the labour but little advanced; the patient fell asleep, and did not awake for two hours, when the uterine pains were strong enough to expel a fine still-born child. In this case there was hour-glass contraction with retention of the placenta, and the symptoms sufficiently indicate the irregularity of the action of the uterus, and consequently the administration of the ergot improper. Mr. Chevasse relates another case very similar to the last; and in two instances, which have occurred within my own knowledge, there were similar results. Mr. Jukes, in a letter which appears in the *Provincial Medical and Surgical Transactions*, states, "in my first trials of the *secale cornutum*, I had no less than six cases of retention of the placenta, almost in succession; several of which were well-marked cases of hour-glass contraction; in each of these cases I had not employed it till the os uteri was fairly dilated. They were all cases of arrest, and I have no doubt would have been brought to a safe termination by the powers of nature alone, had I waited a sufficient length of time: in four of those cases no pregnancy has again taken place; and out of six, five of the infants were born dead."

The following striking instance of hour-glass contraction with retention of the placenta, after administering the ergot of rye, occurred in my own practice. Mrs. F., aged 31, pregnant of her seventh child, sent for me early in June, 1828, being at the time in labour, having arrived at the full period of utero-gestation. I had attended this patient in six previous labours, which were natural and of short duration, and was disappointed at finding, in the present instance, a slow, protracted, irregular labour; and, after eighteen hours had elapsed, the patient becoming

weak and exhausted, the head pressing upon the perineum, and the pains very weak, I was induced to give the ergot of rye: half a drachm of the powder was given in water. In a short time vomiting took place, and continued until after the expulsion of the child, which was effected in less than half an hour. Before I had divided the funis, severe uterine hæmorrhage came on, accompanied with pain; I introduced the hand into the uterus instantly, and found it rigidly contracted at its centre, the placenta being retained at the fundus; with much difficulty the contraction was overcome, and the placenta violently expelled with the hand, when the hæmorrhage ceased. Not more than three minutes could have elapsed between the expulsion of the child and the hour-glass contraction.

Another cause of tedious labour is too great a distension of the uterus. When the uterus is in a healthy state it cannot be distended beyond its power of action; the smallness and slowness of the effect of the first pains of labour are for the purpose of allowing the parts to adapt themselves gradually to the great stress made upon them. Yet the distension of the uterus may prevail to such a degree, that its possible expulsive force shall be weakened; this is proved in many cases of twins. This is an instance, I conceive, in which the ergot might be given more safely; it would excite the uterus to act, and as there is, in this instance, no irregularity in the action, but want of power only, it is a case, perhaps, better adapted. Dr. Denman, when contemplating this state of things, appeared to think such an agent desirable; for he says, "It is, however, to be recollected, that the uterus cannot be distended beyond its power of action, though, when greatly distended, it is capable only of slow and feeble action. This slow and feeble action is, perhaps, beyond the influence of any earthly power to give to the uterus its native or genuine disposition to act before it is disposed to assume it; to add to its power, or in any material degree to increase its energy, though many applications and medicines have been recommended and tried for this purpose. But when this cause exists, we know, from experience, that almost invariably the case does well, by waiting patiently, and the only advantage to be derived from the administration of the ergot would be to quicken delivery, but not unattended with risk both to the parent and child."

The state of child-bearing is not one of disease; nevertheless, it must be admitted, that women at this period are more liable to contagious diseases than at any other time, and that all diseases with which they are affected, though they may for a time remain, as it were, dormant, yet cause general debility. We find the health of many women at the time of parturition impaired, which state we are told has continued through pregnancy, though not dependent upon it. In constitutions much reduced by phthisis, or by a disease of any part not immediately affected by child-bearing, the disease will, as it were, remain suspended until after delivery, and then advance with rapidity; and it is well known that the constitution is, in some cases, so reduced as to produce extreme weakness, the pains in such cases often ceasing. I had a case where the woman, previous to conception, had suffered under urgent symptoms of phthisis; at this period the urgency of the symptoms quite left her, and did not return until the week before parturition. This patient had never regained much strength, showing great weakness. After going to the full period of utero-gestation, she was taken in labour; at first the expulsive efforts were considerable, but shortly the pains ceased, and I was obliged to use the forceps; the patient lived ten days after delivery. I conceive that, in cases of tedious labour, rendered so by constitutional debility, from whatever cause, the ergot of rye ought not to be administered; the excitement produced by such a remedy would be sufficient to cause a fatal termination, particularly as the forceps can be used safely in such cases.

Tedious labour, in connexion with a hurried circulation and a febrile state, with hot skin and great thirst, producing irregularity in the action of the uterus, would render the

administration of the ergot of rye very injurious; even though we could satisfy ourselves that the contractions of the uterus were not irregular, yet the febrile state of the patient would at once point out the objection to the ERGOT as a remedy.

Mechanical obstructions, such as a contracted state of the os uteri, vaginal passage, or pelvis, or an oversized head, causing tedious labour, are instances, I believe, in which the most sanguine of the advocates of this remedy consider its administration most unjustifiable. Parturition, being a natural effort, ought not to be interfered with, unless nature's efforts are ineffectual, and then the means we possess, independent of this medicine, are sufficient in the hands of a skillful practitioner. I would say, with Denman, "May not many failures proceed from ignorance of the art? some of them may justly be imputed to our entertaining too high an opinion of the art, or the application in practice, when it is not absolutely required, and when its application is prejudicial; in too much confidence in our own means, and too little dependence on the natural efforts and resources of the constitution." We must not forget, in administering the ergot of rye, "*even though it be to save the valuable time of the medical practitioner,*" that a life may be sacrificed, and that too in the fairest and apparently most desirable cases for its use.

In some constitutions the different parts concerned in parturition are not equally inclined to dilate; sometimes the internal parts dilate in a free and easy manner, when the external are in a contrary state, particularly observable in first labours (in which cases the ergot ought never to be given); where it has been so injudiciously prescribed, the results have been, in an immense number of instances, still-born children.

A discussion of some length followed the reading of this paper.

Dr. TRENCH contended that the ergot of rye had little or no specific effect on the uterus. He had himself administered it without advantage, and was inclined to believe that, where delivery followed its use, more was to be attributed to the imagination of the mother than to anything else.

Mr. WORTHINGTON, jun. adduced cases of its successful employment, where the mother was not aware of its exhibition.

Mr. CURRIE agreed with Mr. Banner on the impropriety of using the ergot without due discrimination, and argued in favour of the forceps in tedious labour. He thought that the ergot might increase uterine irregularity where that already existed, and might also give rise to hæmorrhage, by emptying the uterus of its contents too speedily, and without allowing time for contraction.

Mr. BANNER opposed the views of Mr. Currie, as to the frequent use of the forceps; he thought that, like the ergot, they should be resorted to in a very few cases only.

Opinions as to *modus operandi* of the ergot were given by Dr. Vose, Dr. Baird, and Dr. Sutherland; and the meeting adjourned.

PRACTICAL OBSERVATIONS ON THE UTILITY OF DIVIDING BOTH INNER RECTI MUSCLES

FOR THE CURE OF STRABISMUS, WITH CASES.

BY P. BENNETT LUCAS, ESQ.

Surgeon to the Metropolitan Free Hospital, Lecturer on Surgery at the Hunterian School of Medicine, &c.

IN the treatise which I published some months since, on the cure of strabismus by operation, will be found three cases in which I divided the inner rectus muscle of each eye. In two of these, this proceeding was called for on account of the patients having laboured under *double* convergent strabismus; and in the third, on account of the eye *first* operated upon being much more *prominent* than its fellow; although, in this latter case, both eyes, after the first operation, were perfectly straight, and followed each

other's movements with the accustomed regularity and precision of eyes in a healthy condition.

Mary Anne Davis, the girl in whom I divided (for the first time) both inner recti muscles for convergent strabismus, I have seen within the last month; her eyes are perfectly straight, and the operation has been most successful. This patient was first operated upon on June 10th, 1840, in the presence of Mr. Pettigrew, Drs. Hennis Green, Pettigrew, and Mr. Sharpe, when I divided the inner rectus muscle of the right eye; on doing which, "it immediately occupied the centre of the orbital axis, and became more prominent than the other. The left eye remained turned upwards and inwards. I operated on the second eye three weeks after, when both organs became perfectly straight, and equally prominent."

The second case of this kind in which I operated was on June 12th, 1840, in the presence of Mr. Pilcher, Mr. Chaldecott, Mr. Cameron, and Drs. Wild, Pettigrew, and Walsh. After I divided the inner rectus muscle of the right eye in this case it became immediately straight, "and visibly more prominent than its fellow. The left eye, as was anticipated, turned in, which the patient was told to expect before the operation was performed." In nine days after the first operation, with the kind assistance of Mr. Pilcher and Mr. Chaldecott, I divided the inner rectus muscle of the left eye, when it became equally straight and prominent with its fellow, and both eyes moved naturally.

The case of single convergent strabismus in which I divided the inner rectus muscle of the *sunken* eye was that of Mr. Henry Mills. This patient had been the subject of convergent strabismus of the right eye since he was four years old. "The left eye was unaffected. On July 28th, 1840, I divided the inner rectus muscle, when the eye immediately became straight, but more prominent than its fellow."

"Aug. 7th. The effect of the operation was this day as follows:—Scarcely a mark of the incision was present; both eyes were straight, but at times the left eye appeared to have a slight inclination inwards. I mention this, although it appeared to some of those present that both eyes were perfectly straight. The right eye is much more prominent than its fellow, and forms a striking contrast to it in this respect. In the presence of Mr. Kraus, Mr. Cameron, and Mr. Earle, I divided the inner rectus muscle of the sunken eye, which at once made it equally prominent with its fellow, without producing the least deformity of it. The difference in the appearance of the patient was most remarkable."

"Aug. 16. Saw Mr. Mills this day; both eyes are equally prominent, and follow each other's movements with regularity." To this report I appended the following observation:—"The division in this case of the inner rectus muscle of the eye *which did not squint* has been attended with the most satisfactory results, and practically illustrates in the living subject some of the physiological views which have been advanced, in the preceding part of this essay, regarding the actions of the oblique muscles."

These three operations speak for themselves, both as to their happy results and as to the soundness of the views which prompted their performance.

Since August 7th, 1840, the date of the last operation quoted, I have in numerous cases of convergent strabismus divided both inner recti muscles with a different object from any already stated, viz. for the purpose of removing *all trace* of strabismus, when the division of the inner rectus muscle of the permanently inverted eye was not attended with *complete* success. I say with complete success, for in some cases the eye first operated upon will have an inclination inwards, and more rarely upwards and inwards, notwithstanding that its inner rectus muscle has been completely divided, as well as the portions of the sub-conjunctival and sub-muscular fasciæ in connexion with it. My attention was first directed to the division of both inner recti muscles for this latter purpose in consequence of perusing the able communications of Mr. Elliot, of Car-