Observations

ON THE

CÆSAREAN SECTION AND ON OTHER OBSTETRIC OPERATIONS.

BY

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CHAPTER III.

On the Maternal and Infantile Mortality.

HAVING, in the preceding chapter, placed before my readers a full and trustworthy statistical account of the results of the Cæsaean section in the cases in which this operation has been performed in Great Britain and Ireland, I shall next endeavour to prove what the causes are which have occasioned such a fearful fatality of the mothers, and how far they unavoidably belong to the operation. I shall then speak of the infantile deaths and their causes.

To satisfactorily and faithfully accomplish this investigation, the mind ought to be free from all partiality in favour of the Cæsaean section and from all prejudice against it. The deductions on which we seek to establish practical principles ought, as far as possible, to be drawn from well established facts. However true this rule in general is, there is more or less difficulty in strictly observing it on the subject now under our consideration. Most of the cases, in my humble judgment, have been related more for the object of swelling the already fatal list, than for the purpose of pointing out the mischief which existed previously to the operation, and the real causes of death.

I.—*On the Causes of Maternal Mortality.* The constitutional state of most of the women who underwent this operation, was very unfavourable for its performance. Forty-five of them laboured under progressive and incurable disease; many of them were bedridden, and were also unable to discharge their social duties. Many others wanted that perfect or conservative constitutional power to enable them to bear without danger so important an operation.

In most of these cases, the practitioner was ignorant of their nature until his assistance was required during labour, and therefore he could not adopt preparatory measures. In all capital operations, the risk is greatly enhanced if such means have been neglected. The blood must be deprived in such subjects, and consequently the secretions and excretions must be unhealthy; hence the necessity of taking such steps as tend to correct organic or functional derangement. Constipation is nearly an invariable attendant on ordinary pregnancy; and, in many cases, fecal accumulations to a great amount occur. But when distortion of the pelvis exists, this is much more likely to happen, in consequence of the mechanical impediment offered by the great projection of the promontory of the sacrum and lower lumbar vertebrae to the downward passage of the fœces. The cervical and oral portions of the uterus, which are thrown backwards against this osseous

mass, tend to compress the intervening gut. The same effects, to a greater or less degree, are produced when large tumours exist in the pelvis. The numerous evils which arise from neglected bowels are not only experienced during pregnancy, but also during the puerperal state. Such are peritoneal inflammation, puerperal irritation and exhaustion, etc. If, then, such serious diseases occur during the puerperal state after ordinary labours, from causes which are remediable, is it not very probable that the same mischief might happen after Cæsaean cases, in which these causes do exist in a still higher degree?

Labour, if unduly protracted, is nearly always attended and followed by a considerable number of very serious evils.

These mischievous effects vary considerably according to the duration of the labour—to the nature of the cause and the degree of the mechanical impediment which obstructs the passage of the child through the pelvis. And, therefore, it is obvious, different measures must be adopted according to the relative degree of obstruction. We ought, however, always to consider a lengthened duration of labour, from whatever cause it arises, as more or less unfavourable to both the mother and her infant. In all such cases, we should be extremely watchful, and timely adopt those measures relatively required for the delivery of the woman before any injury is inflicted on, or irreparable mischief is done to, the pelvic tissues or organs. It must be understood, that all the dangers of protraction increase after the rupture of the membranes and the discharge of the liquor amnii. It is also a well established fact, that the dangers both to the mother and to the infant increase in a ratio proportionate to the duration of labour. I soon learned, from my hospital practice, that the rules laid down by systematic writers on midwifery, on the treatment of protracted labour, were most mischievous.

To the students of my class, I invariably and urgently inculcated the necessity of an early performance of all obstetric operations, either manual or instrumental, as being of the highest importance, and as especially tending to save the lives of both mother and infant when those instruments were used which are compatible with its life.

In the year 1843, I delivered a short course of lectures to many members of our profession, in which I urged the propriety of an early performance of all obstetric operations, especially of the Cæsaean section; and pointed out the progressive dangers of protraction. At this time, I had no tables to guide my opinion, with the exception of those of Dr. Breen in his observations on the management of tedious labour. (*Edin. Med. and Surg. Journal*, vol. xv, p. 161.) These tables clearly show that dangers increase with the duration of labour. Since this period, Professor Simpson has most satisfactorily proved this fact. It may not, perhaps, be considered irrelevant briefly to mention the effects of labour when unduly and unwarrantably prolonged, in order that a comparison may be made between them and those which have been found existing after the Cæsaean section, and which have been most unjustly attributed to this operation.

Sometimes febrile excitement occurs, accompanied with a quick pulse, hot skin, great thirst, and furred tongue. If means of relief be not afforded, more alarming symptoms soon follow. The tongue be-

comes covered with sordes; the pulse becomes more feeble; and sinking and exhaustion take place, followed by death. Apoplexy, or hæmorrhage from the lungs, may occur in women predisposed to these diseases; or the large vessels of the heart may suffer. Atony of the uterus happens, giving rise to flooding. Active or sudden rupture of the uterus frequently happens. There often takes place a destruction of tissue in the cervix uteri, from the contusion which this part sustains by the forcible pressure of the child's head against the pelvic bones. The os uteri is sometimes separated from the cervix. In other cases, gangrene of the cervix and os has taken place. Inflammation of the cellular tissue of the pelvis occurs, with its consequent infiltration, suppuration, and abscess. At other times, the textures of the different pelvic organs are destroyed, and sloughing takes place, which makes intercommunications between the vagina and the rectum, or between the vagina and the bladder, constituting recto-vaginal or vesico-vaginal fistula, with a train of evils which make the life of the woman most miserable.

The nervous system may be considerably influenced by the Cæsarean section, as it is by most, if not all, other capital operations, the effect of which is termed "shock". This has been asserted to be a frequent, an unavoidable, and an uncontrollable cause of the woman's death. If an abstract view only be taken of the condition of the patient after the operation, then this statement would in some measure appear to be true. But a careful consideration of all the preceding contingent circumstances which existed in each of the recorded cases, and more especially of those which have occurred to myself, leads me to a different conclusion. All the patients, in whose cases I have been concerned, bore the operation with great fortitude and moral courage; and some of them expressed themselves as having endured less pain than they had felt from one of the labour-throes. There was not any manifestation of shock produced by the operation, which did not exist before its performance. If women who had not been endangered by previous disease, or who had not suffered from the effects of protracted labour, died suddenly, or in a few hours, after this operation, without any rally, then it would be reasonable—nay, quite right—to attribute their deaths to the shock occasioned by it. But the fact is otherwise, as nearly all those patients registered in the tables laboured under an incurable disease, and had been a considerable time in labour. I here insert the durations of the labours in sixteen of the tabulated cases, in which sinking, exhaustion, or the effects of shock, are stated as the real cause of death. In one, it was twelve days; in one, it was ten days; in one, it was seven days; in one, it was six days; in one, it was four to five days (in this case, turning had been unsuccessfully attempted, and afterwards craniotomy ineffectually performed, during which operation the vagina was lacerated); in one, it was a hundred and two hours; in one case, it was three days and a half; in three cases, it was three days (one of these women died from disease of the lungs); in one, it was sixty to seventy hours; in one, it was sixty hours; in one, it was thirty-six to forty hours; in one, it was thirty-five hours; in one, it was thirty-four hours; in one, it was twenty hours. One was only twelve hours in labour. She was greatly reduced in vital power by unavoidable hæmorrhage (placenta prævia); she had also bronchitis and epi-

leptic convulsions both before and after the operation.

These cases require no further comment, than to say they afford sufficient evidence of the real cause of death, which truly cannot be attributed to the operation.

Hæmorrhage with shock is stated to have been the cause of death in some of the tabulated cases. The duration of labour in these women is noted as follows. In one, it was fifty-four hours; in one, fifty-five hours; in one, fifty-six hours; in one, seventy-two hours; in one, thirty hours. In this case, there had been a considerable loss of blood before the operation; but very little was lost afterwards. Embryotomy had been unsuccessfully performed, the uterus ruptured, and the os separated from the cervix uteri. In one case, the labour lasted eighteen hours. There was very little blood lost during the operation; but internal hæmorrhage afterwards took place. There were three pints of blood found.

Hæmorrhage has been alleged to be one of the causes of the fatality of this operation. Dr. Hull, however, in two or three parts of his controversial writings, denies that serious danger occurs from this cause; but a strict analytical inquiry of the tabulated cases proves that this assertion is not correct, but that a greater or less quantity of blood is sometimes lost. In several instances, the discharge was considerable, and perhaps may be said to have been dangerous. The peculiar sources whence blood issues during this operation are from the incised edges of the abdominal and uterine parietes; and, when the placenta is in the way of the incision, it may be cut, and then blood issues from its divided structure. Hæmorrhage sometimes proceeds from the uterine arteries, and from the large sinous openings, and also from the surface of the placenta when it is partially separated; and, when this organ is torn, blood is discharged from its disrupted textures, as happens after ordinary labour. In the seventy-seven cases, it is recorded that in twenty there was no blood lost; in twenty-four, very little was discharged, varying from two to seven ounces in quantity; in five cases, there were seven to ten or twelve ounces; in four cases, there were fourteen to twenty-four ounces discharged. In twelve cases, the extent of loss is not definitely stated; but the following expressions are used, as "very considerable," "profuse," "a gush," "really frightful," "not alarming," "great and welled up." These statements are so vague as to be completely valueless, and cannot enable us to judge whether the patients were really endangered by it. We know too well what varying accounts are given by different persons as to the quantity of blood lost on ordinary occasions, to receive the above terms as evidence of a positively serious loss. It is very probable that the amount of blood lost in most of these cases did not exceed that which is discharged after ordinary labours.

In four of the cases, chloroform was administered; and in one, etherisation was used before and during the operation.

In twelve cases, the placenta was cut upon; in one of which there were twenty to twenty-four ounces of blood lost; in one, fourteen to sixteen ounces; in one, ten to twelve ounces; in two, a considerable quantity was lost; and in seven or eight, the quantity was very trifling.

In two cases, the epigastric artery was divided; but there was little bleeding, and it was readily stopped.

In seven cases, the blood issued from the uterine tissue during the incision.

It has been asserted that these accidents (in Cæsa-rean cases) depend on causes which are not very much within obstetric control. This statement is, however, very far from true. In the majority, the sources whence the blood flows are, as has already been mentioned, the same as those whence it issues in other cases of flooding.

The complete contraction of the uterus must, if possible, be obtained; and the placenta must be promptly removed. The latter part of this rule can always be easily and effectually carried out; but there is more difficulty to fulfil the former part of it, as the contractility of the organ is considerably impaired. This is a common effect after protracted labour. In most of the Cæsa-rean cases, the operation was not performed until the power of the uterus was completely worn out; and in many cases its tissue was disorganised. The relative and comparative tolerance of the loss of blood in such cases should be duly considered; and as far as possible this accident should be guarded against. It is not, however, true that "the resources of art can effect but little," or to look upon it as a certain contingency upon the operation.

The vital powers of most of those women who underwent the Cæsa-rean section were at a very low ebb previously to the commencement of labour, and were further seriously exhausted by its duration.

Inflammation of the peritoneum is considered as a frequent cause of death after the Cæsa-rean section. This serous membrane is usually more susceptible to morbid disturbance after labour than it is at ordinary times; so that it cannot be wondered at, that this disease is sometimes found in Cæsa-rean cases, especially if the previous management of the labours, and the real condition of the patients at the time of the operation, are duly considered. The duration of the labours of the women who had peritonitis is as follows. In one, it was six days; in one, three days; in one, sixty-one hours; in one, sixty hours; in one, fifty-three hours; in one, fifty-two hours; in one, forty-eight hours; in one, forty hours; in one, thirty-eight hours (craniotomy was unsuccessfully performed in this case); in one, thirty hours (turning was unsuccessfully attempted, and craniotomy was afterwards ineffectually performed); in one, eighty-two hours (attempts were unsuccessfully made, the membranes being ruptured, to induce premature labour; and afterwards craniotomy was performed without success). Other periods are to be noted—twenty-four, twenty-nine hours, etc.; and in one the labour lasted only thirteen hours, but in this case the uterus was stitched with the glover's suture. In one woman, the duration of her labour was fifty-four hours; she had flooding before the operation. In another woman, whose labour lasted ten days, it is stated that she had peritoneal inflammation, in conjunction with the effect of shock.

In two or three cases, the lower portion of the cervix and the os uteri were gangrenous. The violent and constant pressure of these portions of the uterus betwixt the head of the infant and the irregular projection of the distorted pelvis cannot be unlimitedly continued without producing

either laceration or disorganisation, or complete destruction, of their tissue.

It is alleged that the abdominal and uterine wounds have been found in very different states, most of which are said to have shown a feeble reparative power and a perverted action.

When the vital powers are good in cases of an operation, we have conservative and restorative action immediately set up; but, if they are impaired by the existence of positive disease, or by protracted labour, unhealthy action takes place; and, instead of healthy surfaces, flabby and oedematous edges of the wound are seen; and, instead of an adhesive effusion, there is a dirty sanious discharge, and the uterine wound is said to be found generally gaping. Although remarks on the bad state of the wounds are made to depreciate the value of the Cæsa-rean section, yet it cannot be a matter of surprise that they should sometimes present such very unhealthy aspects, if the previous constitutional and local condition of nearly all the women upon whom it has been performed be justly considered.

Another cause of danger is supposed to be the reduction which goes on in the puerperal uterus, so as to regain its pristine size. This change is considered antagonistic to the reparative action necessary to heal the wound made in the Cæsa-rean section.

The entire vascular system of the puerperal uterus is very considerably altered; and the supply of blood to it is consequently very much lessened from that which existed during its gravid state. This change, together with a process of absorption which is now set up, at least partly causes its diminution of size. But this organ may be, as it is stated, reduced in bulk by a general degradation of its tissue; of which the abundant presence of fat-globules in the lochial discharge, and in the *débris* which covers the interior of the organ, is ample evidence. These are natural changes, and not pathological; and, if there be a reduction of bulk in the uterus, there is simultaneously a relative diminution in the size of the wound. It has yet to be proved whether the alteration which the puerperal uterus naturally undergoes will in any way interfere with the process of reparation.

The want of union of the edges of the uterine wound by adhesion or by granulation is traceable to causes which have already been frequently mentioned, rather than to the natural organic changes above stated.

Tetanus has been considered a cause of maternal death after the Cæsa-rean operation; but I am not aware that this disease is so recorded in any of the tabulated cases. Professor Dubois told me that a patient of his had an attack of this disease in two or three weeks after the operation, and it proved fatal. This disease, it is said, occurs after other obstetric operations; and it sometimes occurs after abortion.

The bursting open of the wound becomes a cause of danger, by allowing the protrusion of the intestines. The attenuated state of the abdominal parietes, which sometimes exists in extreme cases of mollities ossium, occasions this accident. It happened in three cases, in which no attempts were made either to replace the protruded bowels, or to approximate the retracted integuments. This, however, was a great omission. As an example of the necessity and propriety of returning the intestines, if they unfortunately escape through the wound, I refer to the

case (one of recovery) of Mrs. Sankey. (See *Lond. Med. Gazette*, vol. xlvii, p. 804.)

Frequent examinations *per vaginam* are often productive of very serious mischief. Inflammation, followed by suppurative and sloughing, are not unusual results. Two or three examples will be found reported, in which great tumefaction of the external genitals and an inflamed state of the vagina existed. These results are alone attributable to frequent and unwarrantable interference.

Long and ineffectual attempts to deliver by the perforator and crotchet are highly dangerous. Contusion, lacerations, inflammation, infiltration, supuration, and sloughing, are consequences which are not unusually to be found in cases in which violent efforts have been made to drag a mangled infant through a contracted pelvis.

II.—*On the Causes of Infantile Mortality.* The fœtus *in utero* sometimes dies from diseases which occur in its own system, and also from morbid changes in the structure of the placenta, which interrupts the supply of blood from this organ. These causes are not, however, confined in their operation to any particular class of cases. The duration of labour exercises very great influence upon the infant. If the membranes remain entire, and the liquor amnii undischarged, it will endure the continuance and violence of the labour-pains for a considerable length of time without injury. But after this event has happened, there is much more risk of mischief; and the danger increases in a ratio proportioned to the length of time the labour is protracted. The deaths of the infants which have occurred in Cæsarean cases are generally to be attributed to the long continued and violent pressure which they have endured during labour.

There is, however, another cause of infantile death which more especially belongs to the Cæsarean section. I mean the spasmodic seizure of the neck or body of the infant during its extraction through the incised opening of the uterus. In general, there is no difficulty experienced in these cases in withdrawing the infant from the uterus; but sometimes some portion of its body becomes so firmly grasped by the uterus in its passage through the incised opening that great difficulty is experienced in extracting it. There is, however, more danger to the infant when the neck is seized by the uterine grasp than when it is held by any other part of its body. In such cases the body of the infant has been most easily brought along until the shoulder had passed, when the neck is instantaneously seized, and so firmly held, as to require long and continued efforts to be made in order to extricate the head.

The fact, that the uterus in natural labour is energetically roused to expel the placenta which has been separated, first led me to attribute the seizure of the neck of the child during the Cæsarean section to the partial or complete detachment of the placenta. It has lately been doubted whether this theory will suffice to explain it, as "numerous instances are recorded in which the placenta either protruded through the incision, or was found lying loose in the uterine cavity, and in which no inordinate contraction ensued." I am, and was from the first, aware of the truth of this assertion, from an accurate analysis and tabulation of all the published cases; but, notwithstanding the apparent force of this objection, my opinion remains the same.

There are seven cases (two within my own knowledge) in which this event happened; and, as far as I can ascertain, the placenta has been partially or entirely detached in all these cases, or at least presumptively so.

How far the violent uterine action may resemble the spasm of hour-glass contraction, I cannot determine; yet analogy would lead me to think it did.

There is only recorded one (another case) in which the infant was grasped round the abdomen above the hips; the head, shoulders, and trunk, having been first drawn forth. The child was previously dead; and the only effect recognised was the squeezing out the meconium into the uterine cavity. Turning had been unsuccessfully attempted; and during this operation, it was found that there was hour-glass contraction. Does not the occurrence of hour-glass contraction before, and seizure of the child's hips after, the operation, favour the above mentioned opinion?

Clinical Lecture

ON

THE GERMS AND VESTIGES OF RHEUMATIC FEVER.

Delivered at the Royal Infirmary for Diseases of the Chest.

BY

HORACE DOBELL, M.D.,

PHYSICIAN TO THE INFIRMARY.

I PROPOSE to-day, gentlemen, to bring before you two classes of cases, specimens of which are always under treatment at this hospital.

In one, we see the most formidable effects of disease, damaging and incapacitating vital organs; in the other, a few marked symptoms of functional disturbance, producing temporary pain or discomfort. At first sight, there does not seem to be any connexion between the two; but I shall endeavour to show you that they are, in truth, but episodes in a continuous story, although often widely separated by time and circumstance.

The detailed notes of all the cases are on the table. The first case is that of G. T., aged 33, case-maker, admitted a fortnight ago, complaining of great oppression and tightness across the front of the chest, much increased by exercise; occasional vertigo and cold sweats; distressing palpitation, and short cough; quite unable to follow his work. He had old standing valvular disease, the vestiges of rheumatic fever fourteen years ago, from which he had suffered no particular inconvenience until he engaged in a day's rowing a week before admission; but this undue exertion had put his life in peril. Treatment directed to the relief of his oppressed thoracic circulation, and complete rest, have in fourteen days removed all his painful symptoms, and he is able to resume his occupation.

The next case is that of G. H., aged 40, a lithographic pressman, who was admitted for the first time two years ago, in a condition very similar to that of the last man (G. T.), and discharged in a few weeks with similar satisfactory relief. He was cautioned that, if he continued to follow the same laborious occupation, it would eventually kill him. This caution he