SOME OBSERVATIONS ON THE DIFFICULTIES OF EXTRACTION OF THE CHILD IN LOWER SEGMENT CEASAREAN SECTION

BY

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It was in 1906, that Selleim clarified the surgical anatomy of the lower uterine segment of the uterus and demonstrated the advantages of delivering the child through the zone of dilatation rather than through the contracting portion of the uterus. He devised several methods of approach to the lower uterine segment, both extraperitoneal and intraperitoneal. There has been since a marked evolution of these methods by many obstetricians and several modifications of the technique have been adopted. Franck, Koeming, Schicele, Brindeau and Couvalier evolved the technique of Laparo-trachelotomy, which soon became popular with all obstetricians. Their approach to the uterine cavity was through median longitudinal incision on the lower uterine segment. They named the operation "Classical Lower Segment Caesarean Section" in contradistinction to the "Classical Caesarean Section".

The operation on the lower segment was first devised and performed on infected or septic cases, but, gradually the Lower Segment Section has displaced the old Classical Caesarean Section; and now there is hardly any obstetric complication that has not been treated by Lower Segment Section. Indeed, many obstetricians know of but one way out of a difficult obstetric situation; and that is, suprapubic delivery.

I was rather sceptic, in my early days, about the Lower Segment Caesarean Section. However, in 1922 I performed my first Laparo-trachelotomy, or lower segment section with median longitudinal incision.

There were no sulfa drugs nor antibiotics at the time; nay, Protonsil Rubrum, a German preparation and probably an early type of sulfa drug, was in vogue, but, after the first world war, was not available. Blood transfusion was also rarely available even to rich patients.

The results of my first operation encouraged me to take to this operation and I gradually discarded the old classical operation, but, with reservation, of course.

The longitudinal median incision of the lower uterine segment has now been replaced by most obstetricians by a transverse or elliptical incision; but very few obstetricians have given thought to the difficulties that may be met with during the extraction of the foetus.

I am, however, inclined to think that we come across, at times, some obstructed or delayed labour cases in

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which delivery by the old Classical Caesarean Section may be easier and less dangerous to the mother and child, the more so, now that we can safely rely on sulfa drugs and the antibiotics to prevent and combat sepsis—the much feared infection with the old Caesarean Section.

Extraction of the foetus during Lower Segment Caesarean Section, ordinarily, is easy specially when the head is above or at the brim or is floating; but, in cases in which the head has descended in the pelvis and the occiput is at or below the ischial plane and the presentation is posterior, much difficulty may be met with in extracting the foetus. May be that the head can be pushed up through the vagina, and it is often helpful, but the danger of sepsis will be there. Moreover, it is not always possible to push the head up through the vagina in impacted cases without danger to the foetus and damage to the maternal tissues.

When the head is at or above the brim a little manipulation through the incision to cause rotation of the occiput forwards and then extention is all that is necessary. But, in cases of asynclytism, in brow presentation or in cases in which the face is lying posteriorly, one could insert a finger in the mouth and rotate the face anteriorly and deliver the chin by extention and then the occiput by flexion. Ordinarily there is sufficient room for these manipulations. Forceps is rarely required in such cases and should be avoided. A short straight forceps is handy and can be applied with greater ease than the long forceps. A blade of the short forceps or a vectis may be used to help the finger to cause rotation.

Willett's forceps is, to my mind, a brutal instrument. It causes serious damage to the scalp of the foetus, whenever traction is made with it. I discarded it long ago.

What then are the difficulties that may be met with in the extraction of the foetus? It would be proper to describe the difficulties as caused, firstly by foetal dystocia and secondly by maternal dystocia.

Foetal Dystocia

A large foetal head and body, with an incision on the lower segment insufficient to deliver the child. The incision is likely to be insufficient when the lower segment is not fully formed or developed. An elliptical incision is preferred by most obstetricians and it is supposed to give more room and to have other advantages, but, in cases of large heads, brow presentations, persistent occipito-posterior presentations and others, the extraction is, indeed, difficult and hurried attempts to deliver the child may lead to damage of the lower uterine segment, difficult haemostasis and frightful haemorrhage. Unless the occiput or the face can be rotated forwards, application of the forceps should not be attempted or else the blades will be applied to the occipito-mental diameter and are likely to slip and cause damage to the foetus and the maternal tissues.

When the foetal head is deeply engaged in the pelvis it is extremely difficult to manipulate it and deliver it through the uterine incision. Invariably in such cases the uterus is strongly contracting and adds further difficulties to extraction.

When the breech is extended and impacted at the brim and the foetus is relatively large, its extraction through the incision is difficult and there is likely risk of a fracture of the femur or some other damage to the foetus and not less to the maternal tissues.

Maternal Dystocia

Uterine retraction is met with in those cases that were long in labour and in which there is pelvic or cervical dystocia. In these cases you will find, on opening the abdomen, free straw coloured fluid in the abdominal cavity and the lower segment very much distended, ballooned or even oedematous and very vulnerable (prerupture signs) the uterine body is hypertonic. In these cases even if the original elliptical incision is extended vertically (Segmento-Corporeal incision) there is likelihood of prolapse of the hand. The manipulations are extremely tedious and so is the application of the forceps, if attempted. After delivery of the head the retraction of the uterus holds back the shoulders and the extraction of the trunk requires much traction with consequent damage to the child and the maternal tissues.

I have briefly put before you the difficulties of the extraction of the foetus in the Lower Segment Caesarean Section met with by me in some cases. May be that they are relatively rare, but, all the same, are met with some time or other. I shall now substantiate my observations by demonstrating or describing briefly only three cases.

Case No. 1

Mrs. X. a third para (not registered) was admitted to my Hospital on 24th of January, 1950, in labour. The presentation was L.O.A. and the head was at the brim. Her first confinement was in 1940 (up country). Forceps were applied but the accoucheur failed to deliver the child with forceps and then performed version. The child was delivered dead. Her second confinement was in 1943; induction of labour at 32nd week, spontaneous delivery of a male child weighing 3.950 Kg. Her 3rd confinement in 1950 was due about 15th of January. Medical induction of labour at the end of December failed. On 24th of January, she was admitted in labour. Her pelvis was supposed to be generally contracted, but, it appeared that there was not much of cephalo-pelvic disproportion. When the cervical dilatation was about 4 cms., the membranes ruptured prematurely and the liquor amnii was stained with meconium. The foetal heart sounds were good. I waited for the advance of labour and administered antispasmodics. The uterine contractions became strong but the head made no progress. After a couple of hours I decided to perform a Lower Segment Caesarean Section, under general anaesthesia (ether). The head was hyperflexed and in anterior asynclytism. The occiput was found below the incision and the right shoulder was seen. The face could not be easily reached. All manipulations to rotate the face anteriorly were difficult. The uterus was hypertonic and during the manipulations the right hand prolapsed, this could be easily disengaged, but the head could not be delivered and, much to my regret, I had to put a

vertical median incision in addition to the elliptical (inverted T) and then I could replace the hand with some difficulty in the uterine cavity. After trying to rotate the vertex forwards, I attempted the forceps, but, the blades could not be applied on the usual diameters of the head and the forceps tended to slip. After a difficult extraction a live foetus weighing 4.300 Kg. was delivered. There was frightful haemorrhage from the bruised tissues of the lower segment which, after careful repair of the incision was, fortunately, controlled. Blood transfusion was immediately started. Luckily, the convalescence of the patient, although stormy, was in the end satisfactory, and the foetus escaped with few bruises on the face and the scalp.

Case No. 2

Mrs. Z., aged 40, a primipara, was admitted to my Hospital, as an emergency, after several hours of labour. On examination, the uterus was found strongly contracting and deviated to the right. The uterine height was 36 cms. and the presentation vertex 1. The foetal heart sounds were feeble. On vaginal examination the lower segment was malformed and the cervical dilatation was 6 cms. The vertex appeared to be in anterior asynclytism. The membranes had ruptured and the pelvis was generally contracted. A Lower Segment Caesarean Section was decided upon, under general anaesthesia (ether). On opening the abdomen, the uterus was found hypertonic, and the fundus deviated to the right. On incising the lower segment (elliptical incision) the right hand prolapsed. After careful and patient manipulations and with much difficulty I managed to extract an inanimate foetus, that died a few moments later. The lower segment was badly damaged and the haemorrhage was very profuse. Blood transfusion was given during the operation, and a secondary hysterectomy had to be performed, much to my regret. At the end of the operation, the patient's condition seemed to be satisfactory, but, within two hours she collapsed, and, in spite of all possible treatment, she died of collapse-shock.

Case No. 3

Mrs. Y., a primipara, aged 27, was almitted to my Hospital on 18th of March 1952, for spurious pains and was discharged on 20th. She was a registered patient, and attended the ante-natal clinic regularly. The head was deeply engaged in the pelvis and there was no evidence of any disproportion. She was admitted ten days after her due date with sluggish pains and the liquor amnii draining. The patient, though well developed, was obese. The pelvic measurements were normal and the head was well down in the pelvic cavity. She was very sensitive and slight touch to the abdomen to palpate caused rigidity of the abdominal wall; being obese the position of the foetus could not be clearly ascertained, but, appeared to be posterior or tending to be posterior. Oestrogens, antispasmodics etc., were administered and on the second day the uterine contractions were regular and appeared to be effective, but on vaginal examination the cervix was oedematous and the dilatation was 4

cms. only. Evidently it was a case of cervical dystocia, aggravated by the posterior presentation. Considering the pros and cons, I decided to perform a Lower Uterine Segment Section, on the evening of the second day. Under general anaesthesia (ether) the abdomen was opened. The abdominal cavity was found full of straw coloured fluid. The uterus was hypertonic and the lower segment was ballooned and oedematous. As I said, the head was well down in the pelvic cavity and could not be easily reached through the incision (transverse elliptical) which was at the level of the neck of the foetus. Moreover, the presentation was posterior. The chin could not be reached. During manipulations the right hand prolapsed through the incision, an additional median longitudinal incision had to be made and after tedious manipulations the head was delivered, but, the trunk offered resistance. There was marked uterine retraction which held the shoulders back. The median longitudinal incision was enlarged and the trunk was delivered after a good deal of traction, and a live child weighing 4.100 Kg. was delivered. There was frightful haemorrhage from the damaged lower uterine segment incision, which had extended to the left; it was controlled eventually and both the incision and the abdominal cavity closed. Glucose saline was infused during the operation and blood transfusion was started at the end of the operation. The condition of the patient appeared to be satisfactory at the end of the operation. She came round from anaesthesia in about ¾ of an hour, but very soon collapsed and in spite of continuous blood transfusions and all possible efforts to save her, she died at about 2-30 A.M., nine hours after the operation. There was no vaginal bleeding nor any clinical evidence of intra-uterine or abdominal bleeding. She died of shock. A post-mortem could not be obtained, the patient being a Mahomedan.

These three cases vividly illustrate the difficulties of the extraction of the foetus in Lower Segment Caesarean Section, which may be met with in some cases, of which mention has already been made.

To Wit

In the first case the foetal dystocia was due to the large size of the foetus. The vertex was in the left anterior position, but hyperflexed and the mouth was accessible with difficulty. The uterus was hypertonic and the prolapse of the arm was an additional factor added to the difficulties. The haemorrhage was profuse.

In the second case, the prolapse of the hand was practically irreducible. There was difficult access to the mouth to cause rotation; the uterus was hypertonic (uterine retraction). The forceps could not be applied satisfactorily and they slipped, with consequent damage to the lower uterine segment. Profuse haemorrhage necessitating a secondary hysterectomy to control it and finally the death of the patient from shock.

In the third case, the foetal dystocia was due to the large size of the foetus and occipito-posterior presentation, practically impacted. The difficult access to the mouth or the vertex, the prolapse of the hand, the

retraction of the uterus and the varied manipulations lead to the fatal shock.

In all these three cases there was marked uterine retraction. What then should be the line of our conduct in the presence of such accidents? The enlargement of the incision vertically is helpful, but it converts the Lower Segment Caesarean Section into Segmento Corporeal Section, which is not so good as the classical Caesarean Section. The peritonisation is difficult or is likely to be tedious, inspite of all the modern techniques. The possibility of ragged tears of the lower segment should not be ignored, they may lead to secondary or security hysterectomy or to the death of the mother from haemorrhage and shock. When the arm prolapses it is dangerous to try to replace it. If the uterine muscle is not strongly contracting, a version may be possible, but it is difficult and dangerous. The forceps makes a difficult application, but its judicious use, in some cases, may be helpful, but the possibility of damage to the lower uterine segment must not be ignored.

I am afraid I have bored you enough, but I should not take your time any longer, but, I should like to say a word or two regarding the prophylaxis or how to avoid the difficulties of extraction.

1. Every case selected for the lower uterine section should be carefully investigated regarding the size of the foetus, malpresentations, engagement of the presenting part, the condition of the lower uterine segment, the tone of the uterine body and the duration of labour or of trial of labour.

2. In cases where the uterus is tonically contracted and the presentation has descended deep down in the pelvic cavity, it would be safer to perform the old Classical Caesarean Section, in the interest of the mother and the child or the Classical Lower Segment Caesarean Section, with longitudinal medial incision, which could be extended as required.

3. The problem of uterine retraction is important. There is always hypertonic condition of the uterus prior to "prerupture" signs and symptoms. In such cases, deep general anaesthesia will be of great help. Barbiturates, Pethidin and such other preparations will help to keep the patient deeply under. Curare with rachianaesthesia is said to be very satisfactory. I have no experience of this combination, although I have used rachianaesthesia very many times and I am still using it.

Pituitrin and Ergometrine should not be injected before the extraction of the foetus. When Pituitrin or Ergometrine are injected earlier they will increase the existing uterine retraction and the difficulties of extraction.

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