



## Dr Dipak A. Desai's commentary on **Extraperitoneal Caesarean Section**

We have almost conquered the mortality of caesarean section, but the morbidity of caesarean section in terms of pain, infection and adhesions still persists. This morbidity is mainly due to the soiling or the pollution of the peritoneal cavity.

When the peritoneal cavity is opened, it is subjected to the entry of organisms. It is subjected to the physical trauma of desiccation and handling and there is chemical and immunological trauma due to the contents of amniotic fluid.

To reduce the then severe mortality of classical trans-peritoneal caesarean section in the pre-antibiotic era the extraperitoneal approach was devised. The procedure was further modified by Mr. Latzko, Mr. Waters and Mr. Norton. This extraperitoneal approach reduced the mortality to a significant extent.

These extraperitoneal procedures required extra skill and the procedures had increased complications such as bladder and vascular injuries and also the "incision to baby delivery time" was prolonged, almost to the extent of 10 to 12 minutes. After the advent of antibiotics and after the easier methods of trans-peritoneal LSCS developed by Mr. Monro Keer, the extraperitoneal caesarean section operation fell into disuse.

This is our humble attempt to modify the extraperitoneal approach to make it as simple and as safe as the conventional caesarean section. Our method is almost like the conventional caesarean section - only the approach to the lower segment is different.

In our study of more than 1,000 cases of extraperitoneal caesarean section the mean time from skin incision to baby delivery has come down to 2 minutes and the mean time for the surgery is 12 minutes.

In the extraperitoneal approach, as the peritoneal cavity is not opened, the pain due to peritonism is reduced.

- As there is no bowel handling and as the pain is reduced there is no ileus
- As there is minimal chance of entry of organisms, intra-peritoneal infections are avoided.
- There is no chance of losing a surgical mop in the peritoneal cavity.
- The chance of long term sequel of intra-peritoneal adhesions is avoided
- The patient can be discharged 48 hrs after the surgery.

The problem of bladder trauma in extraperitoneal LSCS is averted by keeping the bladder deflated (as opposed to an inflated bladder in the previous techniques) and the dissection is done lateral to the bladder initially and then continued between the two layers of cervico-vesical fascia.

If proper precautions are taken there is no chance of injury to the blood vessels.

In the event of difficulty the procedure can be immediately converted to a trans-peritoneal procedure.

All the extraperitoneal structures in the body (e.g. kidney, urethra and bladder) are approached extraperitoneally to avoid the contamination of the peritoneal cavity with the potentially infected urine. The lower segment is an extraperitoneal structure. Let us approach it extraperitoneally in order to avoid the contamination of the peritoneal cavity and to further reduce the morbidity of caesarean section.

### **A Summary of the Procedure:**

- The patient is given spinal anesthesia or general anesthesia as per requirement.
- The bladder is catheterized by simple urethral catheter
- Transverse supra-pubic skin incision at the natural lower supra pubic skin crease is made
- The rectus sheath is incised transversally
- Pyraidalis insertion in the linea Alba is detached
- Recti are separated
- After separation of the recti, transversalis fascia is separated until the right inferior epigastric vessels are visualized
- Transersalis fascia is pierced bluntly, medial to the inferior epigastric vessels, and the fascia is stretched to widen the opening
- This exposes the lower segment covered with bladder
- The lateral limit of the bladder is demarcated by medial umbilical ligament
- The fat pad (the bladder cushion) lateral to the medial umbilical ligament is teased and bladder is pushed medially to expose the utero-vesical fold of peritoneum
- Inferior to the fold is the cervico-vesical fascia which has two layers (the superficial layer invests the posterior vesical surface and the deep layer invests the lower uterine segment)

- The superficial layer is opened with a knife and the space is created between it and deep layer to allow an easy access to the lower segment by pushing the bladder medially and downwards out of harms way
- The uterus is incised transversely and the incision is extended with the help of fingers giving good space to deliver the baby. The placenta and membranes are delivered

*The same extraperitoneal approach can be achieved from the left side*

- The uterus is sutured with number one polyglactin 910 in single layer starting at one end and ending in the center - the same is repeated from the other corner and the knot is tied in the center. This ensures adequate haemostasis at the angle and allows us to tackle the corners properly
- Haemostasis is checked and achieved. After confirming the mop count and the instrument count, rectus muscles are approximated and rectus sheath closed with polygalactine number O
- The skin is closed with subcuticular stitch with 910 polygalactin rapid three zero
- The simple urethral catheter is removed before patient is shifted out of operation theatre