Chapter 18

Laparoscopic tissue removal

Chapter 18: Laparoscopic Tissue Removal

One of the most common questions asked about laparoscopic surgery is “How do you remove tissues from the abdomen through such small incisions?”.

There are many ways in which tissues are removed from the abdomen

1) In patients undergoing total laparoscopic hysterectomy, when the cervix is detached, an opening is made in the vagina. The uterus can then be removed from the vaginal opening. This is similar to the way a baby is delivered vaginally.

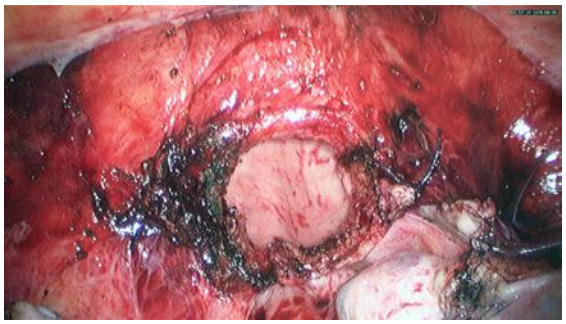

Figure 18.1 Vaginal vault opening after total laparoscopic hysterectomy

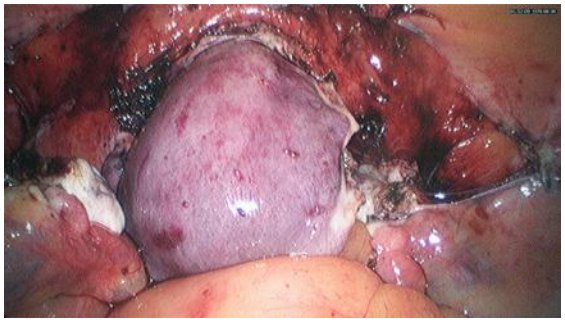

Figure 18.2 Uterus pushed through this vaginal vault opening

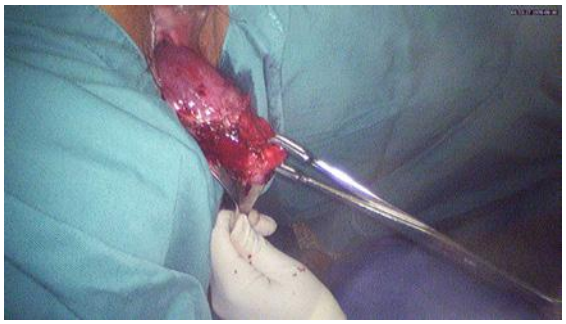

Figure 18.3 Uterus removed from the vagina

2) In patients not undergoing hysterectomy, an opening can be made in the vagina, behind the uterus in the Pouch of Douglas (known as culdotomy). Tissues can be removed through this opening. Large fibroids and ovarian cysts are usually removed in this manner.

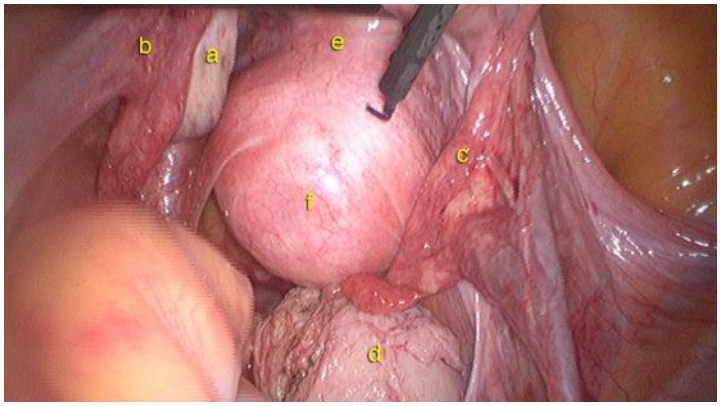

Figure 18.4 Probe used to push the vagina (a) left ovary, (b) left fallopian tube, (c) right fallopian tube, (d) fibroid, (e) cervix, (f) probe pushing the vagina)

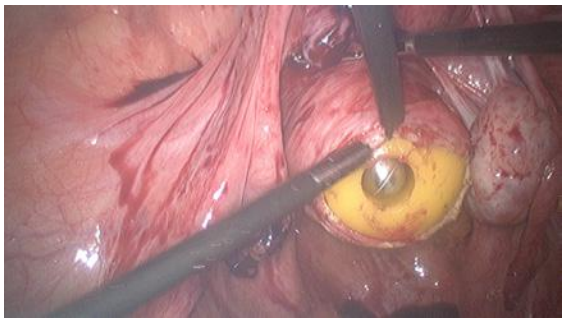

Figure 18.5 Incision made in the vagina

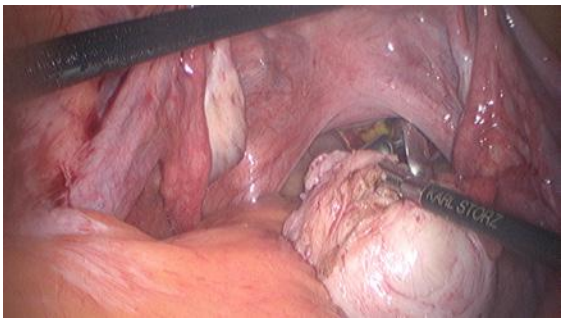

Figure 18.6 Fibroid held with a forceps

3) A plastic bag can be introduced into the abdomen via the 10mm trocar. Small tissues such as ovarian cyst walls and ectopic pregnancy can be placed in this plastic bag. The plastic bag is then brought out of the skin and the tissues are removed. The bag is then removed.

Figure 18.7 Fallopian tube placed in a bag

Figure 18.8 Bag brought out of the umbilical wound and the fallopian tubes removed

4) An instrument called a morcellator can be used to cut the tissues into small pieces and these pieces can then be removed. A morcellator is an electrical device with cylindrical blades that rotates to cut tissues such as fibroids into small pieces of diameter ranging from 10mm to 20mm. Electric morcellation is done within a bag.

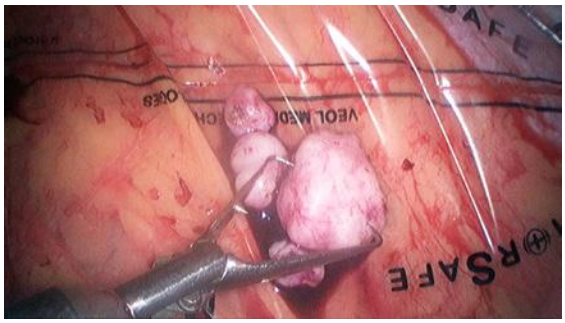

Figure 18.9 Fibroids placed in a bag

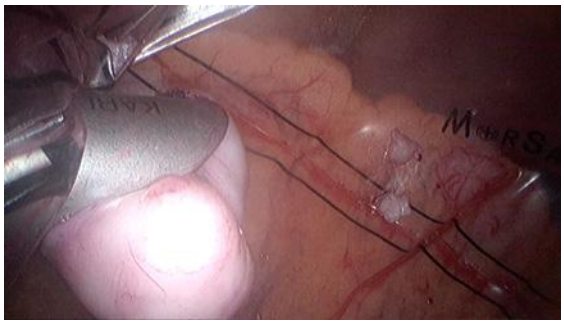

Figure 18.10 Morcellation of a fibroid within a bag

Figure 18.11 External view of morcellation of a fibroid within a bag

Figure 18.12 Morcellated fibroid tissues weighing 1.5 kg

5) Sometimes a knife can be passed via a trocar or even through the skin to cut a large tissue such as fibroids or even the uterus into small pieces. These small pieces can then be removed either through a culdotomy or placed in a plastic bag and removed through a slightly enlarged skin incision.

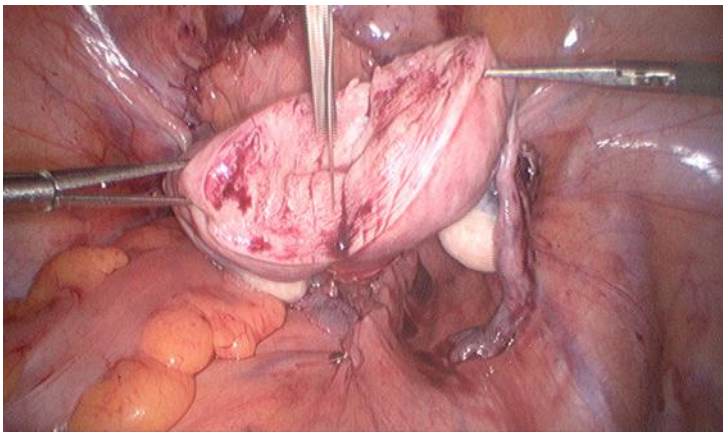

Figure 18.13 Uterus cut into small pieces with a knife

Figure 18.14 Small pieces of uterus placed in a bag and removed from the skin incision

6) A minilaparotomy incision measuring 2 to 3 inches can be made transversely suprapubically and the tissue can be cut with a knife and removed from the abdomen.

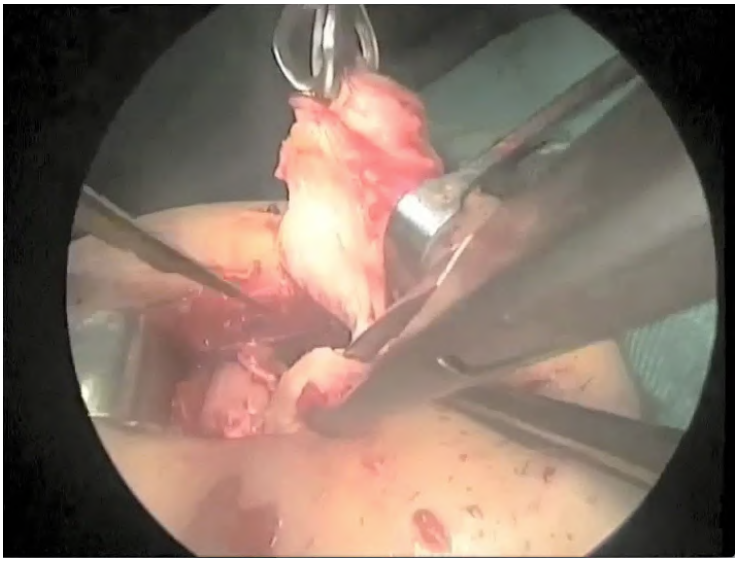

Figure 18.15 minilaparotomy and fibroid removed through the incision

Fact 18.1

Controversy on morcellation of fibroids

Fibroids (leiomyoma) are generally benign. However, there is a small risk of fibroids being malignant or cancerous (leiomyosarcoma). There are different reports of this risk ranging from 1 in 350 to 1 in 10,000. During the morcellation of fibroids using an electric morcellator, there is a risk of spreading fibroid tissues to other parts of the abdomen. As such, all electric morcellations are now done within an enclosed bag

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Laparoscopic tissue removal

http://vimeo.com/155090018

Summary

There are many methods of removal of specimen after laparoscopic surgery. Specimen can be removed through the vagina or cut into small pieces, placed in a bag and removed or morcellated into small pieces using a morcellator.