

## **Chapter 6**

### **Choice of a Power Device**

*“Then, when you have found the shrubbery, you must cut down the mightiest tree in the forest... with... a herring!”*

*The Knights Who say Ni, Monty Python and the Holy Grail*

## Laparoscopic Single Port Hysterectomy

Many of us remember fondly the good old days of residency when hysterectomy meant a large incision and a lot of clamping, tying and cutting. Those days are long gone.

The entire laparoscopic hysterectomy, whether performed with a robot, single-port or multiport, is dependent on the use of a very powerful power device in order to cut the pedicles. As with the previous sections I'm going to start off with devices that I think are not suitable.

First and foremost I would eliminate the harmonic scalpel. Vibration energy is a very novel and interesting tool for surgery, unfortunately I have found no use for it in gynecologic minimally invasive surgery. When a colleague tells me that they are about to perform a surgery using a harmonic scalpel I ask them how many units of blood they have typed and crossed.

Attractive as it may be, an Endo GIA™ device is also off-limits secondary to the presence of staples. Although there is nothing inherently wrong with using a surgical clip to stop bleeding on a laparoscopic field, metal objects in the vagina or that can come into contact with the area adjacent to the vagina with mechanical motion should be avoided at all costs.

A novel technique is to use bipolar energy on a small device and then use a second instrument to actually cut the pedicle after desiccating the tissue using the bipolar energy. This technique has been demonstrated using miniature laparoscopic devices and can be done through extremely small 3mm laparoscopic ports.<sup>18,19</sup> The obvious limitation of this technique is that the small nature of the ports make them extremely flimsy, and they are useless as this technique requires strong power instruments that push into the uterus in order to avoid spaces which might conceivably contain the ureter.

## Laparoscopic Single Port Hysterectomy

Acceptable devices will include all devices that utilize bipolar energy. I'm going to mention the Enseal™, the Thunderbeat™, the Ligasure™ and the Tripolar™ devices. All of these are acceptable, convenient devices that can be used to accomplish this technique. Of these, I would recommend the Ligasure™ and particularly the five millimeter blunt Ligasure™ device. I am aware that the company no longer actively markets this product and, instead, they're actively marketing a new device which is named after the state containing Baltimore.

The Maryland device has several significant flaws. First, unlike the soft edges of the blunt device, the Maryland device instead has sharp plastic tips which tend to get you into planes that you don't really want to be in. For example, when using it you may often find yourself inside one of the leaves of the broad ligament instead of sealing the two leaves together en masse as this technique recommends.

But that's not the biggest problem with the device. The biggest problem is that the activator button on the device for the bipolar energy is hidden at the foot of the lever that closes the jaws. Therefore the energy activates only when you pull the handles all the way down. Even if 100% of the energy of pulling down the handles isn't transmitted to the jaws, you just don't want to be pussyfooting around the ligaments and uncertain that you have a good grasp of them because you are afraid of activating the bipolar device, as invariably occurs. This leads to a surgical technique that is devoid of the finesse necessary to repeatedly slide the bipolar device snugly against the uterus to perform the safest hysterectomy possible. Therefore, I avoid the Maryland Ligasure™ if it all possible. I would like to mention that the 10 millimeter blunt Ligasure Atlas™ is a great device<sup>20</sup>, however it would be incompatible with our single-port technique secondary to the large size. The Atlas™ remains my device of choice when cutting through

## Laparoscopic Single Port Hysterectomy

larger tissues laparoscopically. It is particularly useful on very large fibroid pedicles using the technique of multiple burns as the jaws slowly close more and more with each successive burn.<sup>21</sup>

### References:

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