

Case Report

## Minilaparoscopic Total Hysterectomy

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### Abstract

Minimally invasive surgery is now the cornerstone of gynecologic surgeries. Minilaparoscopic surgery is a new promising technique that involves the use of instruments with an external diameter of around 3 mm in contrast to standard sizes of 5-10 mm used in conventional procedures. In minilaparoscopic process, minimal invasive surgery is being more advanced, ports and surgical equipment's are getting smaller in size. Although the sizes of equipment are getting smaller, the prevention of surgical standards is one of the most important goals.

The aim of this technique is to reduce tissue trauma and decrease the risk of port-site hernia. Smaller incisions allow for minimal scarring which results in better cosmetics and reduced postoperative incisional pain. Here we aim to present the first case of minilaparoscopic hysterectomy ever reported in our country.

**Keywords:** Minilaparoscopic Surgery; Total Hysterectomy

### Introduction

Minimally invasive surgery is now the cornerstone of gynecologic surgeries. Minilaparoscopic surgery is a new promising technique that involves the use of instruments with an external diameter of around 3 mm in contrast to standard sizes of 5-10 mm used in conventional procedures. Advances in instrumentation and progress in fiberoptic technology have armed the surgeons with smaller caliber instruments and better optics and light sources, thus triggering the emergence of needlescopic or minilaparoscopic surgery, defined as procedures wherein all ports are 3 mm or smaller [1]. The aim of this technique is to reduce tissue trauma and decrease the risk

of port-site hernia. Smaller incisions allow for minimal scarring which results in better cosmetics and reduced postoperative incisional pain. Here we aim to present the first case of minilaparoscopic hysterectomy ever reported in our country.

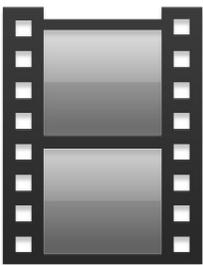
### Case and Method

A 41 year-old, gravida 5 para 5 woman was referred to our clinic with complain of postcoital bleeding. She was diagnosed as ASC-H with Pap-smear. A loop electrosurgical excision procedure cone biopsy revealed HSIL with positive margins. Furthermore, she was scheduled for a hysterectomy and bilateral salpingectomy with minilaparoscopy technique. Under gen-

eral anesthesia the Clermont-Ferrand uterine manipulator was inserted. After pneumoperitoneum was created via the insertion of a Veress needle through umbilicus, 5 mm laparoscopic trocar was inserted. Then optical system was placed at the umbilical site, 3 ancillary trocars (3mm) were inserted under direct visualization into the abdomen at bilateral lower quadrants and supra pubically. Hysterectomy was started with coagulation and the section of the round ligaments and the uteroovarian ligaments. The broad ligament was opened up to the uterovesical fold that was then incised with caudal reflection of bladder. Afterward the uterine arteries and cardinal ligaments were cauterized and transected. By using monopolar hook a circular colpotomy were performed (Video 1). The uterus was then removed from the vagina and vaginal cuff was sutured with a running 0 vicryl transvaginally. All port sites were adducted with surgical strips (Figure 1). The operation time was 2 hours and 16 minutes. Her pre and postoperative hemoglobin values were 12 gr/dL, 11.5 gr/dL respectively. No intraoperative or postoperative complications were observed. Her recovery was uneventfully and she was discharged after 24 hours in good general conditions.



**Figure 1.** All port sites were adducted with surgical strips



## Discussion

Minilaparoscopic surgery is a new promising technique that involves the use of instruments with an external diameter of around 3 mm in contrast to standard sizes of 5-10 mm used in conventional procedures. Recently, preference of minimal invasive surgery is substantially due to less operative trauma, smaller incisions, less hospital stay and better cosmetic results [1].

In this process, minimal invasive surgery is being more advanced, ports and surgical equipment's are getting smaller in size. Although the sizes of equipment are getting smaller, the prevention of surgical standards is one of the most important goals.

In this case total laparoscopic hysterectomy was performed by using 3 operative ports and 3mm surgical equipment. Total incision length was 9 mm and we did not need using any sutures. In surgical incisions there is a positive correlation between scar formation and pain with the length of incision. In addition the usage of suture may contribute scar formation. Smaller incisions allow for minimal scarring which results in better cosmesis and reduced postoperative incisional pain [2,3].

In our case, the pain is minimal scar formation was not observed. Especially in the younger age group, it may be more desirable for better cosmetic results.

In minimally invasive surgery, operation time is a bit longer, but this process and all new surgical procedures have a learning curve. In our case, total operation time was 136 minutes from induction of anesthesia to the end of operation and it was a bit longer than conventional laparoscopic hysterectomy of our cases.

Another complication of larger ports in conventional laparoscopic surgery is bleeding and herniation from port entry sites. These complications are increasing in direct proportion to the size of the incision. In contrast, bleeding may be observed minimally in the entrance area of 3 mm ports but herniation is unlikely [1].

The most important limitation of mini laparoscopic hysterectomy is the difficulties of having a sustainable stable pneumoperitoneum [4,5]. This limitation can be resolved by using maximum Carbon dioxide flow or with using insufflation of Carbon dioxide from two ports simultaneously [2]. In this case we resolved this problem by using Carbon dioxide flow at maximum rate and using aspiration minimally.

One of the most important concerns in mini laparoscopic hysterectomy is the efficiency in providing hemostasis [6,7]. However, in experienced hands hemostasis can be provided with

3 mm equipments and bipolar forceps [1]. In our case, we observed 0,5 gr/dl decrease totally in hemoglobin rate; homeostasis was provided by small bite bipolar coagulation and this is parallel to Ghezzi's study [1].

However; in obese patients and large uterine surgery, because of the potential limitations of the small instrument, it should be used more carefully.

## Conclusion

Minilaparoscopy is an emerging aspect for hysterectomy with its advantages such as reduced postoperative pain and enhanced cosmesis. In the hands of experienced laparoscopic surgeons, this technique appears to be similarly safe and effective when compared with conventional laparoscopic procedures.

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