

Laparoscopic subtotal hysterectomy due to giant uterine fibroids: a case report

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Summary

The laparoscopic subtotal hysterectomy (LSH) was given to a patient whose uterus was about seven-month pregnancy because of fibroids. The biggest problem was the operation space and visual field was too narrow. Different from the usual procedure we do, we morcellated the uterus at the beginning to expand the space. Loop ligation of the uterine isthmus was adopted to block uterine arteries before morcellating the uterus. After the adnexa exposed totally, we started to cut off the round ligaments, proper ligaments and fallopian tubes like usual. It was the first time we did LSH for so giant uterus in our hospital, although which was usually suitable for the uterus smaller than four-month pregnancy. But if the uterine arteries can be blocked effectively at the beginning, the uterus can be morcellated and the space will be enlarged. The laparoscopic subtotal hysterectomy will also be completed successfully.

Key words: Laparoscopic subtotal hysterectomy, uterine fibroids, loop ligation.

Introduction

Semm completed Laparoscopic Subtotal Hysterectomy (LSH) successfully in 1991[1]. With the improvement of surgical instruments, the advantages of LSH have increased quickly. LSH can reduce the trauma and bleedings, shorten the length of hospital stay, keep the integrity of vagina and reduce the risk of pelvic floor relaxation [2]. But LSH also has shortcoming that is the LSH is limited by the uterine size [2]. It is usually suitable for the uterus which size is smaller than four-month pregnancy. But in this case we completed LSH on uterus sized seven-month pregnancy.

Case Report

A 53-year-old woman was admitted to the hospital on May 18, 2011 because of giant uterine fibroids. The cycle of the menstruation was still normal but the quantity had increased 4 years ago. But she didn't have any abdominal pain. Physical examination showed abdominal obesity with Body Mass Index of 29.5 kg/m². Scars covered 30% abdominal wall and umbilicus because of the deep two degree burn when she was 4-year-old (Figure 1). Pelvic examination showed normal and smooth cervix. The size of uterus was about seven-month pregnancy. Ovaries were impalpable due the obese and scared abdominal wall. Ultrasound examination revealed that the uterus enlarged to 11.9 cm×18.8 cm×18.8 cm. The giant fibroids located in the anterior uterine wall with size of 9.1 cm×16.1 cm×16.8 cm. Both sides of the ovaries could be detected. The cervical cytological examination was normal. The preoperative diagnosis was giant uterine fibroids.

The Laparoscopic subtotal (supracervical) hysterectomy (LSH) was performed on May 19, 2011. We placed one optical

trocars and three trocars for operating in the lower quadrant abdomen. The optical trocar (Φ10mm) was 3 cm below the xiphoid on the midline. The No.1 operating trocar (Φ10mm) was 10 cm above the left anterior superior iliac spine on the anterior axillary line. The No.2 trocar (Φ5mm) was 2cm inside from the right anterior superior iliac spine. The No.3 trocar (Φ5mm) was 2cm inside from the left anterior superior iliac spine.

One end of 1-0 absorbable suture was put into abdominal cavity from the No.2 trocar. The other end was fixed outside of the abdomen. Pull up the uterine corpora to expose the uterine isthmus. The end of the suture which was put into the abdominal cavity was pulled out from the No.2 trocar after surrounding the isthmus one circle. Knot two ends to form a loop. Use the knot pusher to push the knot to the isthmus and tighten up the loop continuously. Change the No.1 trocar into Φ18mm trocar. Put the morcellator into No.1 trocar to morcellate the uterus from the bottom (Fig 2). When the adnexa exposed, we began to cut off the both sides of the round ligaments, proper ligaments and fallopian tubes from the No.3 trocar. Pull up the uterus to expose the uterovesical peritoneal reflection. Open the uterovesical peritoneal reflection. Push down the bladder 1cm. Use the second loop to ligate the isthmus inside of the both adnexa and cut off the first loop to release the ovaries' blood vessels. Then keep on morcellating the uterus till the the stump was about 2 cm. Clip the stump to 1cm and cauterize the uterine blood vessels. At last make the third loop and ligate the stump (Figure 3). The Laparoscopic subtotal hysterectomy was finished successfully.

The intraoperative bleeding was estimated as 600 ml. The procedure lasted three hours and 50 minutes. It took about two hours to morcellate the uterus and fibroids. The total weight of the removed uterus and fibroids was 2500 grams (Figure 4). The patient recovered quite well and was discharged 3 days later. Pathological result was uterine leiomyoma with degeneration. We did not observe any complication and potential disseminated leiomyomatosis during 3-year follow-up.

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Figure 1. — The scar and the four holes of trocars.

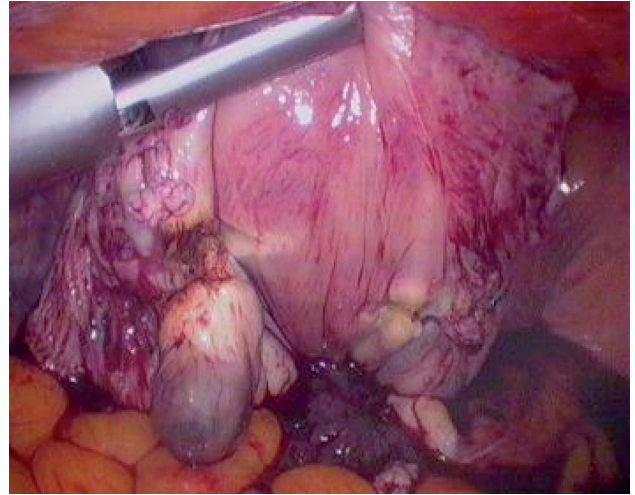


Figure 2. — Morcellate the uterus and fibroids.

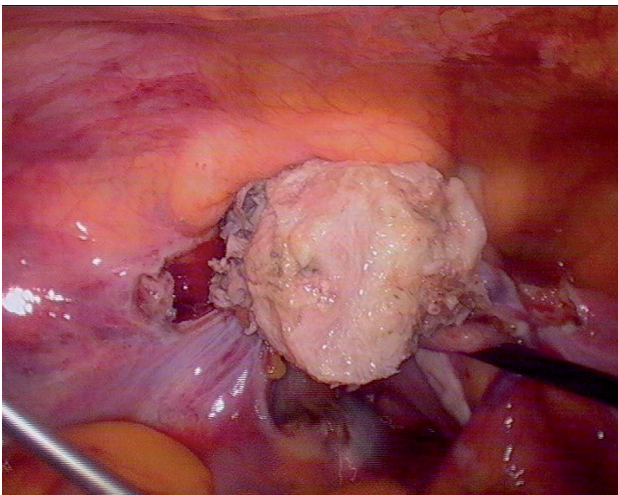


Figure 3. — The stump of the uterus which had been ligated.



Figure 4. — The removed uterus and fibroids.

Discussion

The LSH is usually applied for the uterus with enlarged size up to four-month pregnancy. Otherwise the visual field and operation space will be too limited. However, we managed the LSH on the uterus sized seven-month pregnancy. We suggested laparoscopy because there were a lot of scars on the abdominal wall, which was vulnerable to wound infection after laparotomy. Secondly, given no laparotomy history, the adhesion in the abdominal cavity might not be serious.

We chose laparoscopic subtotal hysterectomy but not laparoscopic total hysterectomy because the cervix was normal and laparoscopic subtotal hysterectomy required less operative dissection of the bladder, ureter, bowel, and uterine artery [3].

The biggest problem of this operation was the narrow operation space and visual field caused by the giant uterus.

We must lessen the uterus in order to expand the space. The usual procedure of LSH is cutting off round ligaments, proper ligaments, fallopian tubes, opening the uterovesical peritoneal reflection, cutting off the uterine arteries and morcellating the uterus at last. But this time we needed morcellate the uterus firstly. Morcellating the uterus before the uterine arteries cut off will cause serious bleeding. So we decided the loop ligation of the uterine isthmus to block the uterine arteries, thus we morcellated the uterus and fibroids without worrying about the bleeding.

Loop ligation is safe, effective and can reduce operation time [4]. It doesn't need freeing the uterine arteries, avoiding vascular injury. It also avoids thermal damage [5]. After the loop ligation, the pelvic cavity and the vagina is not interlinked. So we don't need to close the peritoneum which makes the operation more simply [6]. It is very important

to tighten up the loop continuously when morcellating which can reduce the bleeding during operation. Double loop ligatures can reduce the risk of postoperative bleeding we think.

Conclusion

It was the first time we did the LSH for so giant uterus, however it might be considered impossible to complete. But if the operation space and visual field could be enlarged effectively, giant uterus like this case can also be removed successfully. The practiced hands and good cooperation are both important for the operation which can shorten operation time and reduce injuries.

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