Case Report

Successful myomectomy in a 36 weeks size fibroid uterus through a supra pubic transverse incision

Abstract

Uterine fibroids are the commonest Gynecological benign tumor which affect reproductive age women. Surgical management of large fibroid uterus create multiple challenges to both surgeon and the patient. This is a case of large fibroid uterus in an unmarried lady, grown up to the level of xiphisternum which treated with successful myomectomy through a suprapubic transverse incision.

Keywords: myomectomy, fibroid uterus, transverse incision

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Introduction

Uterine leiomyomas or fibroids are the commonest benign gynecological tumor which may affect up to 80% of women before the menopause.[1] Prevalence of fibroids among women between 30 to 50 years is 20 to 30%.[2] Even though most of the women with fibroid uteruses are asymptomatic, fibroid uterus will create a huge negative impact on women's life due to symptoms like menorrhagia, dysmenorrhea, pelvic pain disorders, infertility, or early pregnancy complications.[3] In rare instances some of these fibroids metastasize even though they are benign which called as benign metastasizing leiomyoma.[4] Prevalence of fibroid uterus is very low in women below the age of 20 years.[5]

Even though exact mechanism for the fibroids are not yet known, presence of high number of estrogen and progesterone receptors in these smooth muscle cells explained the increase prevalence of these tumors during reproductive age and drastically reduction in prevalence after menopause.[6] Higher concentration of aromatase, estrogen receptors and progesterone receptors have been detected in leiomyoma cells compare to normal myometrial cells.[7] Other factors that may affect the growth of fibroids are obesity, early menarche, pregnancy and exogenous estrogens. Even though some authors suggest a connection between red meat and broiler chicken consumption with fibroids, current evidence are not enough to prove it.[8] Mutations of chromosome 6, 7, 12, and 14 have been found in leiomyoma cells even though mechanism of subsequent hyperproliferation was not described yet.[9] Prevalence of fibroid uterus (with relatively larger size, detection at younger ages, symptomatic) is higher among African women.[10]

Best diagnostic tool for fibroid uterus is Ultra Sound Scan (USS) due to its high diagnostic accuracy, easy availability and cost effectiveness. magnetic resonance imaging (MRI) is the best tool to assess the pelvic soft tissues which can be used to distinguish leiomyosarcoma from fibroids.[11] Treatment for the fibroid uterus depends on patient's age, fertility wishes, site and size of the fibroids. When considering the abdominal incision techniques in open Gynecological surgeries, low transverse incision techniques (Pfannenstiel incision) have gained popularity compare to mid line incisions due to less post-operative pain, less risk of incisional hernia and cosmetic acceptability. But mid line incision may need when good access is required or in a case of ovarian malignancies.[12]

Case

Previously healthy 26-year old unmarried lady presented with progressive abdominal distention during last one year. She had abdominal discomfort and mild pain during last 2 to 3 months. She had normal regular menstrual cycles throughout the course. She denied any loss of appetite or loss of weight. She didn't have any family history of breast, uterine, ovarian or colorectal carcinomas. She had never undergone any kind of abdominal surgeries.

On examination she was averagely built lady without any features of anemia. Her abdominal examination revealed abdominopelvic mass which compatible with a 36 weeks size gravid uterus, extending up to the level of xiphisternum. Characteristics of this mass suggested a presence of fibroid uterus. Pelvic examination was not done as she was sexually inactive.

Trans abdominal ultrasound scan of the abdomen and pelvis confirmed the presence of multiple fibroid uterus. A cluster of sub-serosal pedunculated fibroids noted arising from the fundus of the uterus. Rest of the uterus was normal. Bilateral ovaries were normal. Because of the massive size of the fibroids, decision was taken to go ahead with pre-operative MRI to exclude sarcomatous changes. This confirmed the findings of ultra sound scan while excluding the sarcomatous changes. Largest fibroid was 30cm in diameter.

Patient was counselled regarding the findings and available uterine sparing management options. She agreed for myomectomy through a laparotomy without any pre-surgical GnRH (Gonadotrophin releasing Hormone) therapy. She was informed about the requirement of mid line laparotomy. She agreed for that and all the other possible complications including hysterectomy. Her abdomen was re-examined after giving general anesthesia which confirmed the presence of good mobility of the mass. About 4 inches size supra-pubic transverse incision was made and opened into the peritoneal cavity. Surgeon's hand was inserted into the peritoneal cavity and thoroughly explored around the fibroids to identify the anatomy and to exclude adhesions. Then the incision was extended laterally and good access to the fibroids was obtained (picture A). A sterile naso-gastric tube was inserted beneath the junction between fibroids mass and the uterus with out catching any bowel loops. Two ends of the tube were pulled up to make the junction between fibroids and the uterus more clearly visible through the abdominal opening (picture B). A myoma screw was carefully inserted into the fibroids (picture C). Then the fibroid cluster

was dissected out from the uterine fundus while fibroids remain inside the peritoneal cavity (picture D). Then the fibroids attached site of the uterine fundus was repaired with No. 1 polyglycolic acid sutures. Then the fibroid mass was pulled out by myoma screw and fibroid mass delivered out just like delivering the fetus during the caesarean section with forceps (picture E). Peritoneal cavity was washed with saline and abdomen was closed. She had an uneventful recovery and histology confirmed the presence of leiomyomas (Figure 1).

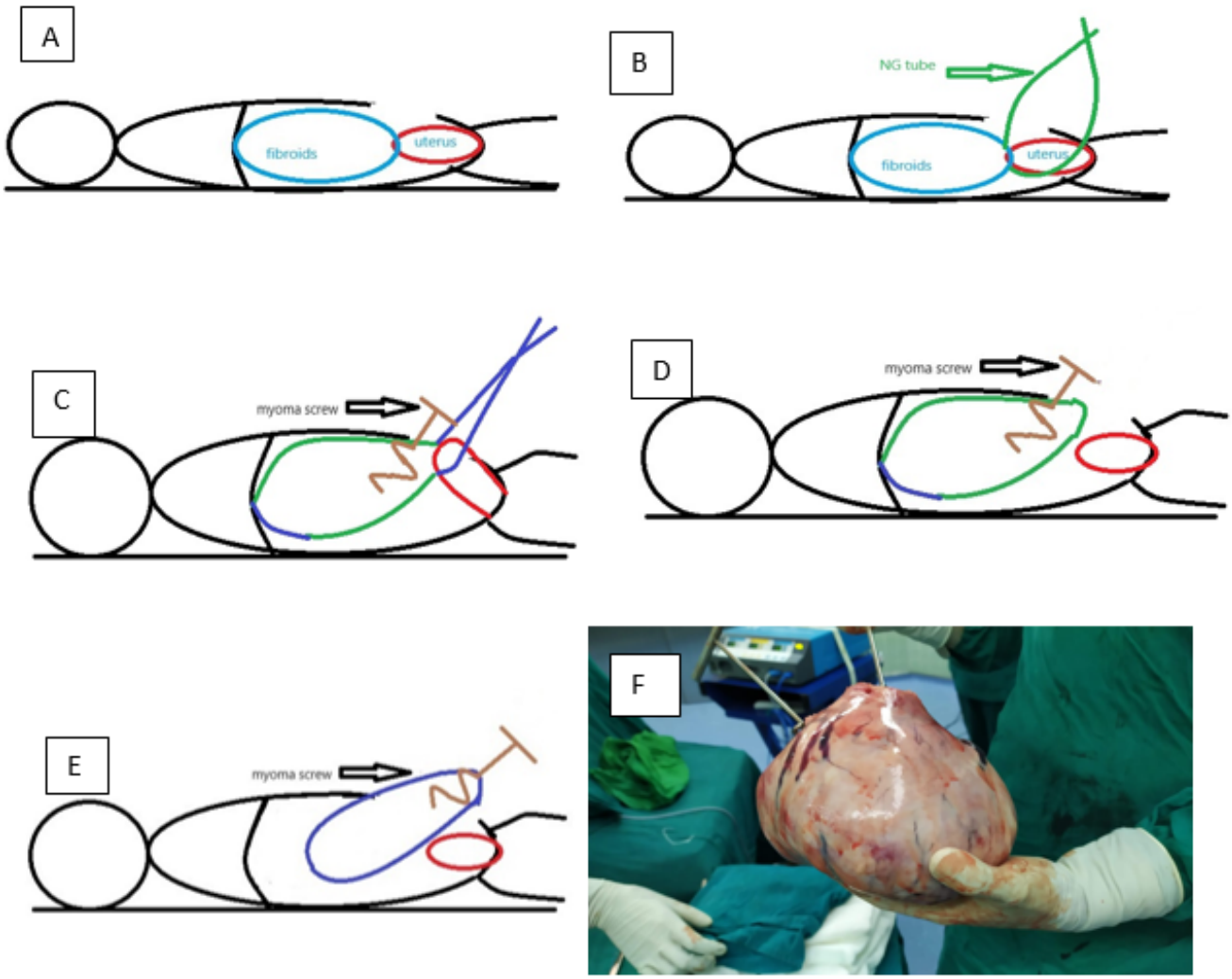

Figure 1 Steps of the surgery.

Discussion

This patient had delay in seeking treatments until her uterine fibroids grown up to the level of xiphisternum. As she was a nulliparous lady her stronger anterior abdominal muscles compare to a parous woman, may had masked the fibroid uterus. Other than that, she didn't have any menstrual problems as this was a sub-serosal fibroid. Other than its large size she didn't have any risk factors for a leiomyosarcoma like past pelvic radiation and tamoxifen therapy. Performing an MRI scan is justifiable to exclude sarcomatous changes as it is the best imaging tool to visualize soft tissues.[11] Even though more widely available compare to MRI, computerized sonography is not recommended for the further evaluation of fibroid uterus.[13]

As she is a nulliparous lady who was having fertility wishes in future, she had to select a uterine sparing management option. Even though many non-surgical methods are available, the best treatment modality for her is myomectomy due to its large size, minimum interference for the future fertility, not affecting hormonal cycle and low recurrence rate.[14] Uterine artery embolization and MRI guided focused ultrasonography are another two non-surgical options. But the suitability for this kind of large fibroid uterus and safety profile in a woman who is having fertility wishes are not well established.[15] Medical management options like GnRH (Gonadotrophin releasing hormone) analogues can be used for a short period or as a pre-surgical treatment to reduce the size of the fibroid and reduce the intra-operative bleeding. By doing that a larger fibroid uterus which need a mid-line incision, can be delivered during the surgery through a transverse incision as it reduces the fibroid size. But the enucleation of the fibroid will be difficult as pre-operative GnRH treatment obscure the tissue planes. Same time she will have to wait another few months to get done the surgery. But if pre-operative GnRH therapy become successful, myomectomy can be done by laparoscopically as well with expert hands. But care should be taken to prevent spillage of myoma particles with in the peritoneal cavity during morcellation,

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even though sarcomatous changes had been excluded by pre-operative MRI. Because spillage of particles even from a benign fibroid can cause disseminated peritoneal leiomyomatosis.[16]

Selecting a most appropriate incision for an open myomectomy in a large fibroid uterus is challenging. Disadvantages of a supra-pubic transverse incision in this patient is limited access to the upper abdomen as fibroid had extended up to the xiphisternum level. The problem could have become worse if there were adhesions with the fibroid. The second thing is difficulty in delivery of the fibroid out from the peritoneal cavity. But pre-operative imaging confirmed the exact nature and location of fibroid (sub serosal fibroid cluster arising from the fundus of the uterus) where the junction between fibroid cluster and uterus can be easily reached through a supra-pubic transverse incision. Same time, examination under general anesthesia demonstrated good mobility of the mass which clinically exclude dense adhesions. All these facts are in favor of supra-pubic transverse incision instead of midline incision which increases the post-operative pain, risk of incisional hernias and poor patient satisfaction of patient about the cosmetic outcome. Delivery of the fibroid uterus out from the peritoneal cavity before starting the myomectomy is the routine practice. But in this case this step was not done and myomectomy done while the uterus inside the peritoneal cavity. This was facilitated by the pulled up naso-gastric tube which inserted beneath the junction between uterus and fibroid mass. Myoma screw was carefully inserted into the fibroid before dissecting it from the uterus to facilitate the delivery of the fibroid after the myomectomy being completed.

Conclusion

Uterine leiomyomas are the commonest Gynecological tumors among reproductive aged women some times present with larger sizes which warrants exclusion of sarcomatous changes by pre-operative imaging with MRI. Mode of treatment depends on various factors. Doing a myomectomy for a large fibroid uterus through a supra-pubic transverse incision can be done successfully after selecting a suitable patient with a virgin abdomen with proper pre-operative fibroid mapping and examination after giving anesthesia.

Declarations

Acknowledgements: None.

Conflict of interest: The authors declare no conflict of interest.

Ethical approval: As this is a case report which do not contain any patient identification details, ethical approval is not required.

Informed consent: Informed written consent was obtained from the patient

Author contribution: The author confirms sole responsibility for study conception and design, data collection, analysis and interpretation of results, and manuscript preparation.

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