Original Research Paper

Volume : 5 | Issue : 10 | October 2016 • ISSN No 2277 - 8179 | IF : 3.508 | IC Value : 69.48

Vaginal Surgery of Uterus Larger Than 12 Weeks By Using Vessel Sealing Device

Medical Science

KEYWORDS : hysterectomy, ligasure, vessel sealer

Dr shashi Shankar Behera	Associate professor, department of obstetrics & gynaecology,KIMS,KIIT, Bhubaneswar,odisha, 204/shivani apartments,near patia college,patia ,Bhubaneswar,odisha * Corresponding Author
susmita senapati	Tutor, department of anatomy, IMS & SUM hospital, Bhubaneswar , odisha
sudarshan dash	Assistant professor ,department of obstetrics & gynaecology,KIMS,KIIT, Bhubaneswar,odisha

ABSTRACT

Background- *vaginal hysterectomy is the most commonly performed gynaecological surgery in our operation theater. Most common indication is a benign cause having a size of uterus less than 12 weeks. Uterus larger than 12 weeks size either dealt abdominally or laroscopically.*

Objective-*. A retrospective study to evaluate the safety of surgery by using a vessel sealing device in a small group of patients undergoing vaginal hysterectomy for uterus larger than 12 week size .*

Method- *The covidien vessel sealing device(ligasure) used for vaginal hysterectomy in uterus size between 12 to 16 weeks.*

Results- *No complications were encountered intraoperatively & postoperatively*

Conclusion- *Ligasure is an efficient & safe alterative to suture for vaginal hysterectomy specially in big uterus.*

Introduction

Hysterectomy is one of the most commonly performed gynaecological surgeries over the globe. A cochrene review favours the transvaginal route because of earlier return to normal activities , fewer febrile episodes & relatively shorter hospital stay. A good number of cases are subjected to either abdominal hysterectomy or laparoscopic hysterectomy due to size of the uterus & technical challenge of access for suturing. In the last two decades due to increase in surgical expertise more number of abdominal hysterectomies are converted to vaginal one.

Hemostasis is fundamental in all surgical procedures. Suturing is difficult to do in a big size uterus as vaginal route gives a limited access. Advanced bipolar coagulation posses active feedback control over the power output. The heat production is kept below 100˚C. This prevents lateral thermal spread. Also the tissue charring & sticking is minimal. After the coagulation process is over the inbuilt knife can be used for tissue division. This bipolar device can seal vessels up to 7 mm in diameter & the jaw is designed to provide precise ,continuous bipolar support with grasping capability.

Materials & Methods

In this series safety of ligasure evaluated in 20 cases of vaginal hysterectomies (non descent vaginal hysterectomy) where the uterus size is more than 12 weeks. The cases selected were based on clinical examination. The size of uterus selected was between 12 to 16 weeks. Pelvic examination was done to rule out other pathology if any. Cases other than fibromyoma & adenomyosis were not included. The patients were subjected for ultrasonographic examination to rule out other pelvic pathologies.

The study was carried at kalinga institute of medical sciences(KIMS) between July 2015 to December 2015 .Total 20 cases were selected. These cases were selected after clinical examination & ultrasonographic evaluation in out patient department.

The surgery was carried out under sub arachnoid block. The drug used was bupivacaine heavy. For surgery special variety of single bladed sim's speculum was used. These speculums have extra long blades so that they can retract bladder anteriorly & rectum posteriorly. The cervix was caught with two strong allis tissue holding forceps. A deep incision was given anteriorly at cervicovaginal junction. The incison was extended & anterior pouch opened. The posterior pouch was opened by cutting posterior vagina wall just below cervicovaginal junction. Single bladed sim's speculum were put in both anterior & posterior pouch. Ligasure was used to clamp, cauterize than cutting of pedicles. Mackenrodt complex & broad ligament were easily tackled from below. Then the uterus was subjected to morcellation vaginally & debulking was carried out. Lastly the round ligment, ovarian ligament & fallopian tube complex were clamped ,cauterized & ligated. After the uterus was removed the stumps were verified for bleeding or oozing. Vicryl no-1 was used to close the vagina. Vaginal vault was closed with a corrugated rubber drain in situ. The drain was removed after 24hours .The total time consumed was noted. The amount of blood loss was recorded (it is the amount of blood in the suction machine as we don't use tetra). The weight of uterus was taken for records. Patient was kept in intravenous fluid for 12 hours followed by clear liquids for next 12 hours. Normal food was given 24 hours after surgery & patient was discharged after 72 hours after surgery. No indwelling catheter was given. Patient was asked to pass urine before entering the theater & in first 12-24 hours a bedpan was given. After the patient became mobile she was allowed to go bathroom with help of the attendants.

After 72 hours patient was discharged with oral antibiotics, analgesics . she was asked to come after 2 weeks for post operative check up. Later on the patient was advised for post operative check every month for 3months. Each & every time she comes clinical examination along with sonographic evaluation was done to rule out hydronephrosis .

Results

The cases were total 20 in number & all the cases underwent nondescent vaginal hysterectomy under subarachnoid block. In all the cases no complications are encountered either intraoperatively or postoperatively

Sl no	age	Size of uterus(in wks)	Weight of uterus(in gms)	Op-erative time(in mins)	Blood loss(in ml)	Hospital stay after surgery(in days)
1	46	14	450	72	45	3
2	42	16	520	50	50	3
3	40	12	365	38	30	3
4	38	14	380	54	30	3
5	44	12	268	64	40	3
6	43	12	315	56	35	3
7	40	14	445	50	40	3
8	38	14	400	45	30	3
9	45	14	385	65	40	3
10	48	16	470	80	45	3
11	46	14	354	65	40	3
12	42	14	290	54	35	3
13	48	14	410	60	40	3
14	45	12	370	55	40	3
15	47	16	425	75	80	5
16	46	12	250	50	30	3
17	44	14	365	60	50	3
18	48	12	300	45	40	3
19	42	12	285	50	35	3
20	46	14	350	65	40	3

The mean time of operation was 57.65 mins out of which most time was spent for morcellation. After the mackenrodt & uterine was cauterized and cut the uterus becomes relatively avascular. Then only the cervix was caught with tenaculum & with the help of the knife debulking of uterus was done . Portion of myometrium along with the myoma was removed as piecemill. Both the single bladed speculums are used to protect the bladder anteriorly & rectum posteriorly. After the debulking was over easily the round ligament, ovarian ligament & fallopian tube complex was cauterized & divided. Only in a single case there was adhesion anterioly due to previous caeserian section & it took around 1hr & 20 mins.

The mean weight of uterus removed was 369.85 grams. In one case it is more than 500 grams. Actually the size of the uterus was between 12 to 16 weeks but the wight varies some where between 200 + to 500 + grams. The mean size of uterus that was removed 13.6 weeks. In this series most of the cases were having a uterus size between 12 to 14 weeks.

The average bloodloss was 40.75ml. the blood lost along with the specimen was not taken in to account. In one case due to previous caeserian section with 16 week size uterus the blood loss was bit high i.e around 80 ml. In almost all cases the patient was discharged after 72 hours except one in which there was some adhesion & patient was kept for 5 days for observation.

Discussion

This study was carried out to know the safety & efficacy of sealing devices to be used in vaginal hysterectomies . In bigger uterus the suturing is difficult. The large vessels that include ovarian & uterine need to be tackeled properly by a sealing device. In our study we observed that no extra use of suture or any othe device required while dealing with the pedicles.

The thermal spread to the adjacent tissue is an issue. But in our case all the patients are followed for 3 months. In our series no ureteric or bowel injury related to thermal spread noticed.

Conclusion

Hysterectomy, that to vaginal hysterectomy being one of the commonest surgeries in the world , would benefit tremendously in terms of ease of surgey & decrease amount of blood loss. The vessel sealing device can be an efficient & safe alteranative to the standard suturing technique specially in bigger uterus. As we succesfully completed the evaluation without encountering any significant complication ,larger studies are reqiured to evaluate the effectiveness .

References

1. R.Pokras and V.G Hufangel, " hysterectomy in united states,1965-84 ". American journal of Public Health, vol 78,no 7,pp852,853,1988
2. T.E Nieboer,N.Jhonsn,A.Lethaby et al. " surgical approach to hysterectomy for benign gynaecological diseases.Cochrane database of systematic reviews.no # article ID CD003677,2009
3. S.F. Meikle, E.W Nugent & M. Orleans." Complications & recovery from laparoscopic assisted vaginal hysterectomy compared with abdominal & vaginal hysterectomy." Obstetric & gynaecology Vol 89,no.2,pp 304-311,1997
4. Kovac SR (2000) Hysterectomy outcomes in patients with similar indications. Obstet Gynecol 95:787-793
5. ACOG Committee Opinon number 444 (2009) chosing the route of Hysterectomy for benign disease. Obstet Gynae call 114 (5):1156-1158
6. Silva- Filho AL, Rodrigues AM. Vale De Castro Monteiro M et al (2009) Randomised study of bipolar vessel sealing system versus conventional suture ligature for vaginal hysterectomy. Eur J Obstet Gynaecol Reprod Biol 146 (2) : 200-203
7. Levy B Emery L (2003) Randomised trial of suture versus electro surgical bipolar vessel sealing in vaginal hysterectomy. Obstet Gynaecol 102(1): 147-151
8. Ding Z , Wable M, Rane A (2005) Use of Ligasure bipolar diathermy system in vaginal hysterectomy. Obstet Gynaecol 25 (1) :49-51
9. Kennedy JS, Stranahan PL, Taylor KD, Chandler JG (1998) High burst strength feedback controlled bipolar vessel sealing. Surg Endosc 12: 876 -878
10. Newcomb WL , Hope WW, Schmelzer TM et al (2009) comparison of blood vessel sealing among new electrosurgical and ultrasonic devices .Surg Endosc 23(1):90-96