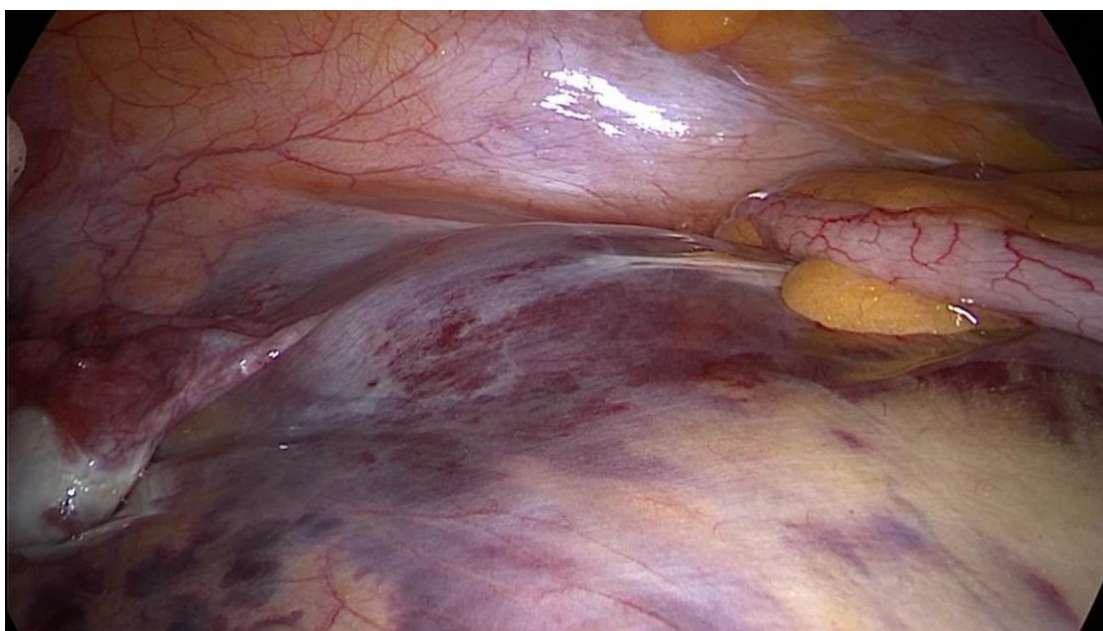




# the Trocar Official Online Journal of ISGE



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## **ISGE dared!**

After 17 months of pandemic, we held the first physical congress event in Split (Croatia). The preparations were marked by a great deal of uncertainty, as no one could predict the course of the pandemic or the progress of the vaccinations. Many colleagues from Oceania, Canada or Asia did not have the opportunity to obtain visas or book flights in good time. In many countries travel was even forbidden for doctors.

Therefore, the financial risk could hardly be calculated. Shortly before the congress, we decided to stream the Main Hall to allow even more colleagues to participate. The whole event remained a black box for the organizing team until the end.

Finally, we managed to organize a worthy congress for the outgoing President Paya Pasic. Even though the number of participants was much smaller than originally planned due to the Corona requirements and the overall situation, there was a fruitful exchange and very satisfied participants. Everyone enjoyed the personal reunion and the direct exchange. It was possible to combine the physical congress with live connections, on the one hand the famous case scenarios by Dr Kurian Joseph from India and a live surgery from Italy by Professor Mario Malzoni.

The present industrial exhibitors from BOWA medical; DynaMesh; KLS Martin and Storz were finally happy to have contact with doctors again and enjoyed ISGE performance. A big thank you at this place.

Thanks to the meeting, ISGE was able to hold a general assembly and was thus able to adopt the new bylaws of the society and confirm the election of the new Vice President Dr. Eddy Hartono from Indonesia. Guenter Noé from Germany took over the presidency from Paya Pasic, who has now worked successfully for ISGE for over 2 years.

We are very pleased that we dared to hold the congress and are already at work to prepare our annual meeting 2022 in Agadir.

Save the date!

18-21 May 2021 Agadir

Best regards

Guenter Noé

## Senile Cystic Atrophy in Postmenopausal Women: Correlation between Hysteroscopic View with Histopathological Diagnosis and Serum Estradiol levels - Preliminary Analysis

Author: <sup>1</sup> Tanvir Tanvir<sup>1</sup>, Meeta Meeta<sup>1</sup>, Akanshi Singh<sup>1</sup>, Jaweria Masood<sup>2</sup>,

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### Abstract

**Objective:** Correlation between hysteroscopic appearance of cystic atrophy with serum estradiol levels of < 37 pg/ml (biological reference, age /gender specific) and histopathological results of endometrial tissue biopsy.

**Type of Study:** Prospective observational cohort ongoing study. Ethics committee approved this study.

**Participants:** Postmenopausal women undergoing hysteroscopy

**Intervention:** Hysteroscopy was performed without anesthesia using a 5 mm continuous flow Bettocchi Office Hysteroscope, Karl Storz with 5Fr mechanical instruments i.e., grasping forceps or Hysteroscopic Tissue Removal System 5C with incisor insert. Endometrial biopsy is obtained by targeted or visual dilatation & curettage (D&C) and tissue sent for Histo Pathological Examination (HPE). Venous blood is collected for serum estradiol levels (S. El), analyzed using chemiluminescence immunoassay method and levels of < 37 pg/ml (biological reference, age /gender specific) were considered low risk. Of 35 women, 1 was lost for follow up and 2 did not have S.El.

**Main findings & Results:** Mean age was  $62.4 \pm 7.7$  years. 57% of the patients were biopsied by targeted technique and 43 % by visual D&C. Twenty women had Senile Cystic Atrophy (SCA) on HPE with a mean S. El of  $20.98 \pm 17.88$ ;  $p=0.706$ . The prevalence of cystic atrophy by HPE confirmation is 20.6 %. The other HPE diagnosis were atrophic (3), benign hyperplasia (9) and disordered proliferative endometrium (1). Obese ( $n=13$ ; mean S. El =  $28.89 \pm 16.3$ ;  $p=0.137$ ), hypertensive ( $N=20$  S. El =  $24.40 \pm 15.31$ ;  $p=0.296$ ) and diabetic ( $n=8$  ; S.El =  $30.88 \pm 18.85$ ;  $p=0.075$ ) women with HPE confirmed SCA seem to have higher S.El.

Follow up of 12 months - 5 women underwent hysterectomy; 1 had a repeat endometrial biopsy with HPE as SCA and other remain asymptomatic.

**Conclusion:** Hysteroscopic view of cystic atrophy correlates 60 % with histopathology in the preliminary analysis. Cystic atrophy does not increase the risk of endometrial carcinoma.

**Key words:** Senile Cystic Atrophy, Hysteroscopy, Serum estradiol levels, Postmenopausal bleeding



## Introduction:

Endometrial senile cystic atrophy (SCA) is a variant of atrophic type of endometrium which is inactive and features cystic dilatation of the glands surrounded by flattened tubular cells with fibrosis. There is no proliferative or secretory active in SCA (1). SCA is a benign and less frequently reported in literature, especially as a hysteroscopic finding. This type is seen more frequently in breast cancer patients on tamoxifen. Transvaginal ultrasound shows a thickened endometrium, urging an endometrial biopsy (2,3).

Different theories are proposed for the development of SCA -irregular proliferation or cystic glandular hyperplasia at perimenopause, prior to the decline in estrogen levels. (4).

The other causes may be due to the presence of atrophic variants of cyclically dilated glands seen in the basal functional layer of the endometrium in women aged 35 years and over, or the stromal fibrosis may block the glands and causing distension (5). Most studies are done in postmenopausal women on tamoxifen treated breast cancer patients. Hysteroscopic evaluation showed an incidence of 15.4% with glandular cystic atrophy in 88 postmenopausal women (6), and a prevalence of 29% in 38 patients (2).

D.G.E. Elkholy et al in their prospective observational study, performed serum concentration of total testosterone (T), androstenedione (A), estrogen (E1) and estradiol (E2) and sex-hormone binding globulin (SHBG) in 50 postmenopausal patients with bleeding. Cystic atrophic was detected in 6 cases (6.18%). They found that serum concentration of sex steroid hormones T, A, E1, and E2 was

significantly higher and SHBG was significantly lower in cases of atrophic/weakly proliferative and mixed endometrium than in cases of atrophic inactive and cystic atrophic endometrium (7). This may explain the development of endometrial adenocarcinoma in an atrophic endometrium.

**Material Method:** This is a prospective observational cohort ongoing study. The Ethics Committee approved the study. 97 postmenopausal women underwent Office Hysteroscopy (OH). 35 of them had a hysteroscopic appearance of cystic atrophy (Figure.1). Transvaginal ultrasound was done with Voluson GE-S 10 expert. Hysteroscopy is performed without anesthesia using a 5 mm continuous flow Bettocchi Office Hysteroscope, Karl Storz with 5Fr mechanical instruments i.e., grasping forceps or Hysteroscopic Tissue Removal System 5C with incisor insert. Endometrial biopsy is obtained by targeted or visual dilatation & curettage (D&C) and tissue is sent for HPE. Normal saline is used as distention media and pressures are controlled by the Hamou hysteromat. The outpatient hysteroscopy endometrial biopsy sample is sent for histopathological assessment. Venous blood is collected for serum estradiol levels (S. E1), analyzed using chemiluminescence immunoassay method and levels of < 37 pg/ml (biological reference, age/gender specific) are considered low risk. Of 35 women, 1 was lost for follow up and 2 did not have S.E1. We choose to

perform only Serum estradiol levels, as following menopause, there is decreased level of circulating estradiol (8).

The study period was set for 2 years including data collection with a follow up of one year from January 2020 up to 31st December 2022. The report considers the preliminary report of the study January 2020 – August 2021.

**Inclusion Criteria:** 1. Postmenopausal women 2. Hysteroscopic appearance of cystic atrophy with the presence of protuberance in the endometrium, due to cystic dilatation of the endometrial glands.

**Exclusion Criteria:** 1. Women on Tamoxifen 2. Women on oral hormone replacement therapy. The sample size number is 89 based on the Number Needed to Diagnose (NND) of prospective studies in the literature with an absolute precision of 5 %. **Statistical Analysis:** In Descriptive statistics, the continuous variable are expressed as mean and standard deviation and categorical variables are expressed in frequency and percentage. In Inferential statistics, Independent Students 't'- test is used to test the comparison between group of continuous variables outcome. Chi- square test/ Fisher's exact test is used to compare the categorical data between the variables. Karl–Pearson/Spearman rank and kappa test is used for correlation between variables outcomes. Statistical analyses are performed by using SPSS version 23.0. All statistical analyses are tested at 95% confidence interval and the P value of <0.05 is considered as

statistically significant.

**Primary outcome measure:** Correlation between hysteroscopic appearance of cystic atrophy with serum estradiol levels of < 37 pg/ml (biological reference, age /gender specific) and histopathological results of endometrial tissue biopsy.

**Secondary outcome measure:** 1. To know the prevalence of cystic atrophy. 2. To understand the clinical significance of performing a serum estradiol level in women with cystic atrophy, i.e., is there a risk of endometrial cancer in women having cystic atrophy in non- tamoxifen users.

**Results:** Mean age was  $62.4 \pm 7.7$  years (Table. 1). 57% were biopsied by targeted technique and 43 % by visual D&C. 20 women had SCA on HPE with a mean S. El of  $20.98 \pm 17.88$ ;  $p=0.706$ . The prevalence of cystic atrophy by HPE confirmation is 20.6 %. The other HPE diagnosis were: atrophic (3), benign hyperplasia (9) and disordered proliferative endometrium (1) (Figure.2,3).

Obese ( $n=13$ ; mean S. El =  $28.89 \pm 16.3$ ;  $p=0.137$ ), hypertensive ( $N=20$  ; S.El =  $24.40 \pm 15.31$ ;  $p=0.296$ ) and diabetic ( $n=8$  ; S.El =  $30.88 \pm 18.85$ ;  $p=0.075$ ) women with HPE confirmed SCA seem to have higher S. El (Table.4,5,6).

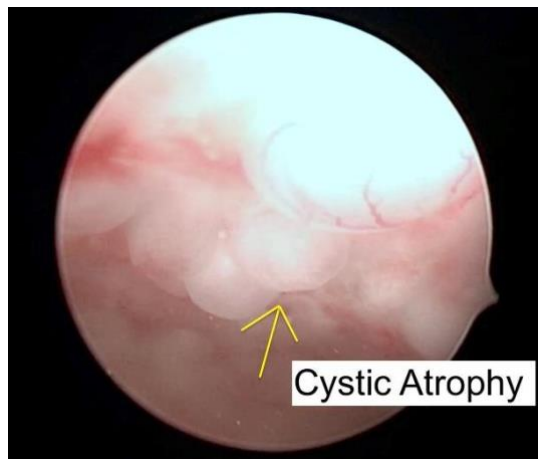
Follow up of 12 months - 5 women underwent hysterectomy; 1 had a repeat endometrial biopsy with HPE as SCA and other remain asymptomatic.

## Discussion:

The preliminary results of this study show an accuracy of 60 % hysteroscopic correlation with HPE. This may be due to the poorly defined hysteroscopic view of

cystic atrophy and failure to obtain adequate tissue in cases of targeted biopsy and flattened endometrium. Table 7. Compares the prevalence of cystic atrophy in different studies.

It is now known that unopposed excessive estrogen stimulation at menopause may lead to endometrial adenocarcinoma in the background of atrophic endometrium (9). High estradiol levels as seen in obesity, hypertension and diabetes may pose a risk of developing endometrium cancer in these women even in the background of cystic atrophy, and require a long term follow up with transvaginal ultrasound and doppler studies with control of the metabolic diseases.



#### Implications for research:

Comparing visual dilatation and curettage versus targeted biopsy in post-menopausal patients requiring endometrial biopsy and correlation with histopathological reports.

**Conclusion:** The hysteroscopic view of cystic atrophy correlates 60 % with histopathology in the preliminary analysis. Cystic atrophy does not increase the risk of endometrial carcinoma, but presence of metabolic diseases may pose a risk of endometrial cancer due to the increased estradiol levels.

#### Hysteroscopic view: cystic atrophy

Immunohistochemistry may add value if the density of estrogen and progesterone receptors in the epithelial cells is high, in women with metabolic diseases and under evaluation for postmenopausal bleeding (9).

#### Limitations:

The amount of endometrial tissue available for HPE varies in the two techniques of targeted biopsy and visual dilatation and curettage. Targeted biopsy with resection of the area or visual dilatation and curettage may increase the accuracy of the hysteroscopic view

**Strength:** This is a prospective cohort ongoing study with a follow up of 12 months and aim to follow for 10 years.

#### Learning points:

Evaluation for postmenopausal women must include a transvaginal ultrasound, hysteroscopy, as the technique involves direct vision, and an endometrial biopsy. Performing serum concentration of E2 may help in the management plan.



Table. 1 Demographics of Postmenopausal Women

Demographics		
Age Mean $\pm$ SD (MEDIAN)	62.37 $\pm$ 7.69 (62)	
HTN (percentage)	20(57.1 %)	
DM (percentage)	9(25.7 %)	
Hypothyroid (percentage)	7 (20%)	
BMI Mean $\pm$ SD (MEDIAN)	29.14 $\pm$ 4.69 (29)	
W.C Mean $\pm$ SD (MEDIAN)	101.14 $\pm$ 11.03 (100)	
Age at menarche Mean $\pm$ SD (MEDIAN)	13.42 $\pm$ 1.67 (13)	
VAS of pain Mean $\pm$ SD (MEDIAN)	2.29 $\pm$ 1.59 (2.0)	
LIKERT'S SCALE OF SATISFACTION Mean $\pm$ SD (MEDIAN)	4.80 $\pm$ 0.531 (5)	
Truclear 5C	16	
Bettocchi Hysteroscope	19	
Family history of cancer:		
Yes	10 (28.6%)	
No	25 (71.4%)	
Other benign endometrial pathology:		
Endometrial polyp	21	
Submucous fibroid	3	

Table. 2. Serum Estradiol levels(pg/ml)

	Mean $\pm$ SD (MEDIAN)	Maximum	Minimum
serum estradiol	21.97 $\pm$ 16.3 (15.60)	75	10

Table. 3. Correlation of Histopathology findings with S. Estradiol levels (One way ANOVA)

HPE	serum estradiol			F-Value (p-value)
	n	Mean $\pm$ SD	SE!	
Atrophic endometrium	3	32.77 $\pm$ 23.6	13.63	F=0.469 p=0.706 (Not significant)
Benign hyperplasia	9	21 $\pm$ 10.7	3.56	
Senile cystic atrophy	20	20.98 $\pm$ 17.88	4	
Disordered proliferative endometrium	1	18 $\pm$ 0	0	

! Standard error

Figure 2. Histopathological findings of the endometrium

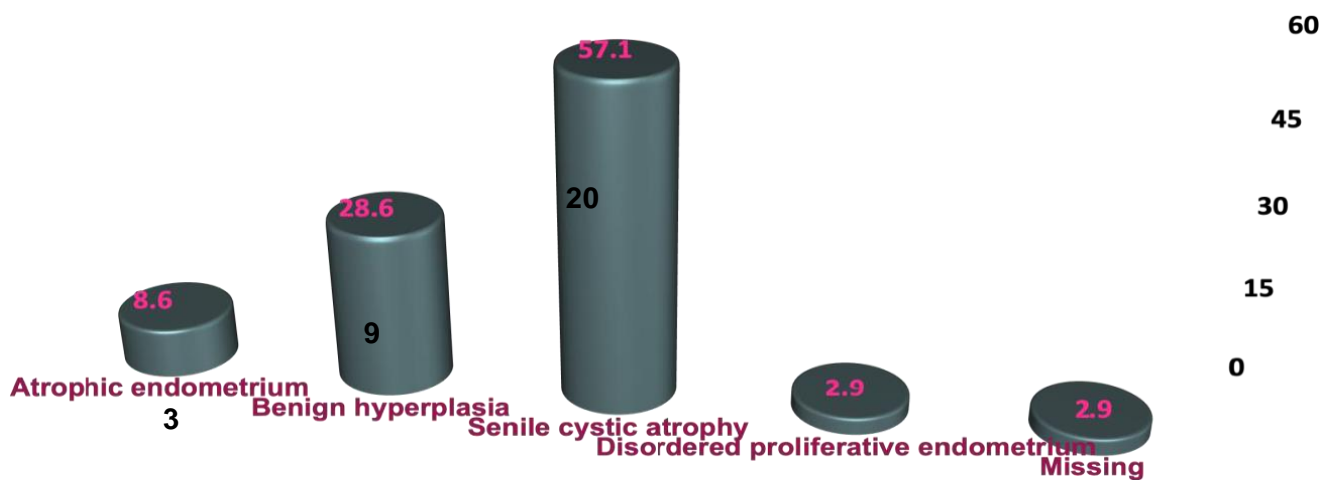


Figure.3. Histopathological differentiation of the endometrium findings

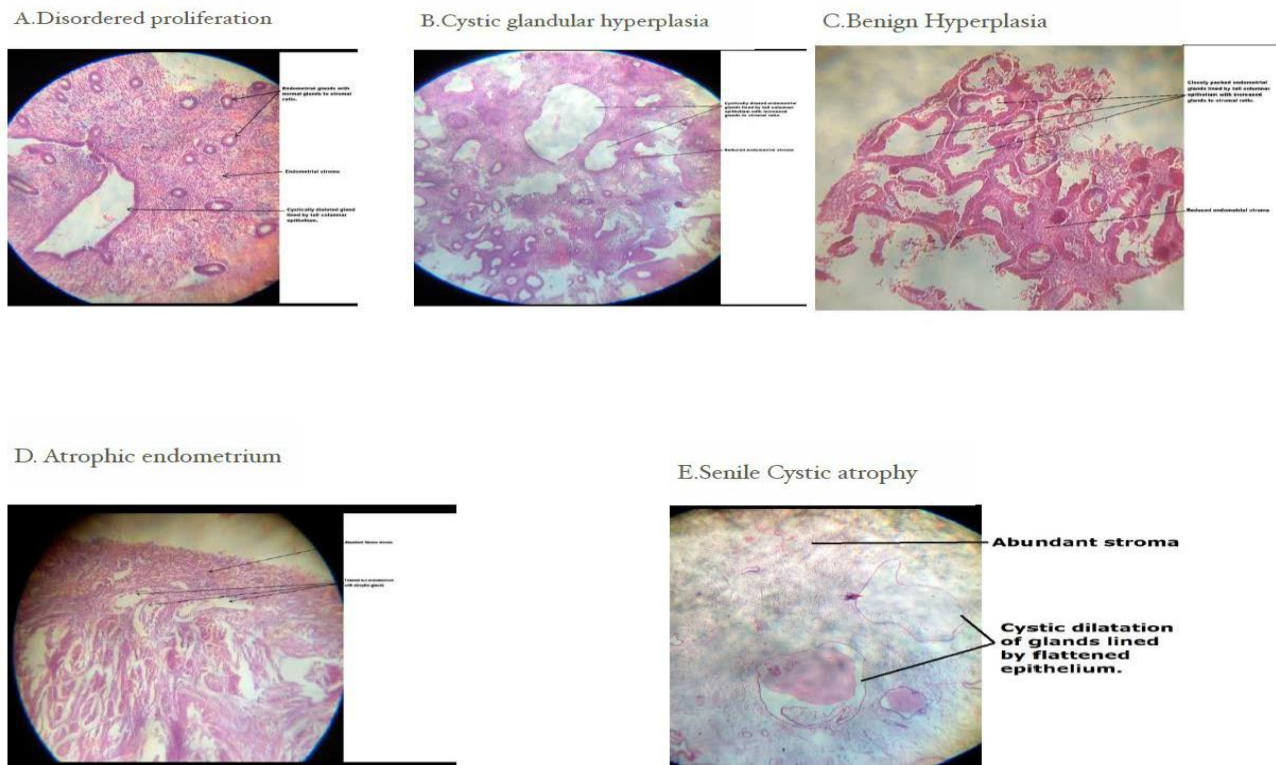


Figure.2. Histopathological view of the endometrium findings

- A. Disordered Endometrium
- B. Cystic glandular hyperplasia
- C. Benign Hyperplasia
- D. Atrophic Endometrium
- E. Senile Cystic Atrophy

Table 4. Comparison between BMI and S. Estradiol

BMI	serum estradiol			F-Value (p-value)
	n	Mean SD	SE	
Under weight	0	0	0	F=2.128 p=0.137 (NS)
Normal	7	15.86±7.22	2.79	
Overweight	13	18.33±13.31	3.69	
Obese	13	28.89±16.3	5.67	

NS - Not significant at P<0.05

Table 5. Comparison between Hypertension and S. Estradiol:

Hypertension	n	Mean ±SD	t 'value (p-value)
No	13	18.23±17.69	1.064 (p=0.296) NS
Yes	20	24.40±15.31	

NS- Not significant at P<0.05

Table.6. Comparison between DM and S. Estradiol

DM	n	Mean ±SD	t 'value (p-value)
No	25	19.12±14.69	1.841 (p=0.075) NS
Yes	8	30.88±18.85	

NS- Not significant at P<0.05

Table.7. Incidence / Prevalence in various studies

Author	Total number (N)	Group of women	Type of Study	Percentage of endometrial cystic atrophy
D.G.E. Elkholi, 2015[7]	109	Post menopausal bleeding - non - tamoxifen	Prospective observational study	6.18%
McGonigle 1998[2]	39	postmenopausal breast cancer women - tamoxifen treated	Retrospective review	29%
Oronzo Ceci 2000[6]	88	Post-menopausal breast cancer women - tamoxifen treated	Retrospective Study	15.4%
Present Study	97	Post-menopausal women - non - tamoxifen	Prospective Observational cohort Study	21%

#### References:

1. Buckley CH, Fox H, eds. Biopsy pathology of the endometrium, 2nd ed. London: Arnold, 2002.
2. McGonigle, K.F., Shaw, S.L., Vasilev, S.A., Odom-Maryon, T., Roy, S., and Simpson, J.F. Abnormalities detected on transvaginal ultrasonography in tamoxifen-treated postmenopausal breast cancer patients may represent endometrial cystic atrophy. *Am J Obstet Gynecol.* 1998; 178: 1145–1150.
3. Kalampokas, T., Sofoudis, C., Anastasopoulos, C., Boutas, I., Melloy, S., Kondi-Pafiti, A. et al. Effect of tamoxifen on postmenopausal endometrium. *Eur J Gynaecol Oncol.* 2013; 34: 325–328.
4. Kurman RJ, Ronnett BM, Hedrick Ellenson L, Editors. Blaustein's pathology of the female genital tract. 6th ed. New York: Springer; 2011.
5. B.J. Procope. Etiology of postmenopausal bleeding. *Acta Obstet Gynecol Scand.* 1971; 50:311-316.
6. Oronzo Ceci, M.D., Stefano Bettocchi, M.D., Fiorino Marelllo, M.D., et al. Hysteroscopic evaluation of the endometrium in postmenopausal women taking tamoxifen. *J Am Assoc Gynecol Laparosc.* 2000;(2):185-189.



7. Gamal D, Elkholi E, Mohamed H. Unexplained postmenopausal uterine bleeding from atrophic endometrium: Histopathological and hormonal studies. Middle East Fertility Society Journal (2015) 20, 262–270
8. Meeta M, Digumarti L, Agarwal N, Vaze N, Shah R, Malik S. Clinical Practice Guidelines on Menopause: An Executive Summary and Recommendations: Indian Menopause Society 2019-2020. J Midlife Health. 2020;11(2):55-95.
9. Sivridis E, Giatromanolaki A. Proliferative activity in postmenopausal endometrium: the lurking potential for giving rise to an endometrial adenocarcinoma. J Clin Pathol. 2004;57(8):840-844.

## Should we systematically proceed for a temporary Bilateral Uterine Artery Ligation in laparoscopic resection of cesarean scarpregnancy? Our experience and review of literature

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### Abstract

**Background:** Cesarean scar pregnancy (CSP) is defined as the implantation of a gestational sac within the scar of a previous cesarean surgery.

**Cases:** Two cases of CSP treated in Mohammed IV University Hospital are reported. The first case is a deep implantation CSP managed by laparoscopy ligation of the uterine arteries was performed with minimal bleeding. The second case is a deep implantation CSP managed by laparoscopy without clamping of the uterine arteries resulting in massive hemorrhage.

**Conclusion:** For CSP, temporary Bilateral Uterine Artery Ligation may be a reasonable and secure procedure in the laparoscopic management of patients who had a cesarean scar pregnancy and do desire to preserve their fertility.

**Key words:** Bilateral Uterine Artery Ligation, laparoscopy, cesarean scar pregnancy

## Introduction

Cesarean scar pregnancy (CSP) is a rare form of ectopic pregnancy however because of the increase in cesarean deliveries, it has become increasingly common over the last decades [1]. Two types are described, type I or endogenous when the implantation is in the scar with development towards the uterine cavity or towards the cervico-isthmic canal, CSP Type 2 or exogenous here the implantation occurs deep in the scar with development towards the bladder and towards the abdomen with an important risk of rupture [2].

This special type of ectopic pregnancy poses a great reproductive risk for women of childbearing age with a history of cesarean section. However, there is no consensus on the treatment of CSP. Here two cases of cesarean scar pregnancy managed by laparoscopy are presented.

### Case report 1

A 28-year-old woman gravida 3 para 2 with a history of 2 cesarean deliveries. the patient presented with a minimal blackish bleeding at an amenorrhea of 8 weeks. Beta-human chorionic gonadotropin (bHCG) was 53280 mIU/ml. On transvaginal ultrasonography, an 8-week fetus was identified in the cesarean scar defect (type II), an MRI revealed a gestational sac embedded in the hysterotomy scar, coming down to the serosa without interposition of the myometrium, lateral on the right side. Detailed information and treatment options were discussed with the patient, and laparoscopy was

retained

Laparoscopic and hysteroscopic exploration were performed at first revealing a dense adhesion between the omentum and the uterine surface, an adhesiolysis was performed. Bilateral uterine artery ligation was performed to minimize blood loss. The bladder was dissected down to expose the vesico-vaginal space, a protrusion from the anterior wall of the uterus located at the uterine isthmus was found. An incision over the bulge was done then the trophoblastic tissue was removed. A suction curettage was performed followed by a repair of cesarean scar dehiscence. Estimated blood loss was 200 ml. The patient was discharged two days after the surgery. Nine months later, the patient had a spontaneous singleton pregnancy.

### Case report 2

A 36-year-old woman gravida 3 para 2 with a history of 2 cesarean deliveries presented at outpatients for routine examination at 6 weeks of amenorrhea with no bleeding or pain. Beta-human chorionic gonadotropin (bHCG) was 12560 mIU/ml, transvaginal ultrasound revealed a CSP (type II) with fetal cardiac activity. MRI did reveal that the placenta invaded the myometrium up to contact with the serosa, responsible for a bulging of the anterior face of the isthmic region that joins the posterior wall of the bladder without a separation border. Laparoscopic management was opted for. During the exploration, a dense adhesion was observed between the cesarean scar and the left lateral abdominal wall. After adhesiolysis, during the attempt to push down the bladder to expose the lower uterine scar, a massive hemorrhage did occur.

An aspiration of trophoblastic tissue to reduce the hemorrhage was performed before completing the dissection. The scar tissues were cut and the dehiscence was repaired. The estimated blood loss was 1200 ml. Patient was transfused with three (Author numbers under ten are best written in letters) units of red blood cells. The patient was discharged 3 days later with 10 g/dl hemoglobin.

## Discussion

Obviously, laparoscopic management is not the only way to manage a CSP, it could be managed by medical treatment or by hysteroscopy and vacuum aspiration. According to the latest Expert Consensus on the Diagnosis and Treatment for Cesarean Scar Pregnancy laparoscopic surgical treatment is recommended in CSP type II [3]

The purpose of presenting those two case reports, is to draw attention on the importance of bilateral uterine artery ligation UAL in the laparoscopic management of CSP.

There have been several studies concerning the use of temporary UAL in the treatment of CSP, however no cases of failed therapy or complication have been documented. Chen et Al [4] conducted a study of the clinical efficacy of Temporary UAL during laparoscopy in the treatment of CSP on 83 patients it shows that the UAL patients did better than the

patients in the no ligation group. Also, Huang et Al [5] demonstrated in a retrospective comparative study of 173 patients with CSP that clinical outcomes were better with hysteroscopic and laparoscopic surgery using temporary UAL than other surgical management techniques.

In other randomized controlled trial studies permanent or temporary UAL have been showed to be effective strategies to reduce blood loss in surgeries implying incision and repair of the myometrium [5,6].

UA embolization could be a good alternative as a pre-treatment for decreasing the risk of bleeding. In a systematic review concerning the efficacy and safety of treatment options, UAE was associated with a success rate of 93%, a risk of hemorrhage of 5%, and a risk of hysterectomy of 3% [7]. However, post-embolization syndrome, pelvic infection, damage to the ovarian function, or endometrial atrophy leading to amenorrhea, intrauterine adhesions, and infertility could occur, affecting the reproductive function of patients.

In conclusion laparoscopic temporary UAL reveals itself to be a better choice and a safer procedure for the treatment of CSP mainly in type II especially for patients with a desire for future fertility.

## Abbreviation

CSP cesarean scar pregnancy

bHCG beta Human chorionic gonadotropin

## References

1. Rotas MA, Haberman S, Levгур M. Cesarean Scar Ectopic Pregnancies: Etiology, Diagnosis and Management. *Obstetrics & Gynecology*. 2006;107(6):1373–81
2. Gonzalez N, Tulandi T. Cesarean scar pregnancy: A Systematic review. *J Minim Invasive Gynecol*. 2017; 24:731–8.
3. Po L, Thomas J, Mills K. Directive clinique n 414: Prise en charge des grossesses de localisation indéterminée et des grossesses ectopiques tubaires et non-tubaires. *Journal of Obstetrics and Gynaecology Canada*, 43, ISSUE 5, P631-649.E1, MAY 01, 2021 DOI: <https://doi.org/10.1016/j.jogc.2021.01.001>
4. Chen R, An J, Guo Q, Lin Q, Yang L, Wang Y. Temporary Ligation of the Bilateral Uterine Arteries During Laparoscopy Combined with Hysteroscopy in the Treatment of Caesarean Scar Pregnancy: Experience at a Chinese Teaching Hospital. *Int J Gen Med*. 2021 May 26; 14:2087-2094. doi: 10.2147/IJGM.S306462. PMID: 34079349;PMCID: PMC8165297.
5. Vercellino G, Erdemoglu E, Joe A, et al. Laparoscopic temporary clipping of uterine artery during laparoscopic myomectomy. *Arch Gynecol Obstet*. 2012; 286:1181–1186.
6. Fletcher H, Frederick J, Hardie M, Simeon D. A randomized comparison of vasopressin and tourniquet as hemostatic agents during myomectomy. *Obstet Gynecol*. 1996; 87:1014–1018. 77. Higgins JPT, Green S, editors. *Cochrane H* (Author is this a book or the Journal If it is the Journal Obstet Gynecol is OKE. Is this yet another reference not worked out?)
7. Maheux-Lacroix S, Li F, Bujold E, MD (Author what does MD mean in this row?), Cesarean Scar Pregnancies: A Systematic Review of Treatment Options. *Journal of Minimally Invasive Gynecology*, ISSN: 1553-4650, Vol:24, Issue: 6, Page: 915-925 DOI 10.1016/j.jmig.2017.05.019



## Extra-ordinary High Cancer antigen 125 (CA-125) level in a 41 year-old patient with adenomyosis: A case report

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### Abstract

Antigen cancer 125 (CA-125) is a hormonal marker for diagnosis of malignancy such as leiomyosarcoma and benign disease like endometriosis. In this case report, a 41-year-old woman with uterine bleeding, extremely high levels of CA 125 and large uterus presented to Nikan hospital with menorrhagia and anemia. Based on the clinical evidence of adenomyosis, magnetic resonance imaging (MRI) and transvaginal ultrasound (TVUS) were helpful in diagnosis. The uterus was enlarged and she had a preoperative CA-125 level of 4400 IU/ml. CA-125 level evaluation showed an increased level in a duration of 2 years before surgery. The enlarged uterus with increased CA-125 was suspect for leiomyosarcoma. Imaging investigations were helpful in making a definite diagnosis. A total laparoscopic hysterectomy, left salpingoophorectomy and right salpingectomy were done. Histopathology confirmed severe adenomyosis. The elevated CA-125 level returned to the normal range postoperatively. We preserved one ovary at this age, while if leiomyosarcoma were suspected before surgery, it was better to remove both ovaries. We report a case of adenomyosis with extra-ordinary raised CA-125 of 4400 IU/ml and severe menorrhagia.

**Key words:** Adenomyosis, Endometriosis, CA-125, MRI, Leiomyosarcoma

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## Introduction:

Antigen cancer 125 (CA-125) is a marker in the blood that is elevated in women with malignancies such as leiomyosarcoma, however it is elevated in people with other medical conditions and some healthy people. The normal blood concentration of CA-125 ranges from 0 to 35 U/ml which is based on the Bast et al. study in 1983 (1, 2). A definite cutoff value for endometriosis has not been determined because serum levels do not necessarily correlate with the severity of disease. Adenomyosis is a condition in which the inner lining of the uterus (the endometrium) invades into the muscle wall of the uterus (the myometrium). Adenomyosis is one of the diseases that can cause an elevated CA 125 level but the level which is reported in this case report is rarely reported. It is in various level in different studies.

As an illustration, the median CA125 levels for patients with adenomyosis was 102.1 (56.3-182.1) kU/L, in the Zhou et al study (3). Other investigations reported that in the differential diagnosis of adenomyosis and myoma, the cut-off serum level of CA125 with the highest accuracy (78.8%) and diagnostic value (61.2%) was 19 U/mL (4).

According to the fact that different imaging criteria are used, an accurate determination of its incidence or prevalence has not been carried out (1). The prevalence of adenomyosis ranges from 5 to 70 % (5-9).

In the present study, trans-vaginal ultrasound (TVUS) and magnetic resonance imaging (MRI) as well as the level of CA-125 make suspicious of adenomyosis before surgery.

We describe a rare case of adenomyosis with Extra-ordinary raised CA-125 of 4400 IU/ml and severe menorrhagia.

## Case report:

A 41-year-old nulliparous woman with a BMI of 26.3 presented with several months of irregular, painful and heavy menses.

CA-125 level was as follow: 95.4 IU/ml, 2 years ago and 2500 IU/ml a year ago. The level of CA-125 in systematic blood test was 4400 IU/ml few days before surgery. Hemoglobin was 7.3 g/dl due to severe menorrhagia. The medical history was hyperlipidemia, hypertension and diabetes. She had a surgical history of appendectomy and myomectomy 12 and 6 years ago respectively.

Transvaginal sonography revealed the uterus has large size with dimensions of 171×104×32mm. Diffuse myometrial heterogeneity with cystic foci were seen suggesting diffuse adenomyosis. The endometrial thickness was 28 mm. In addition, there were 2 echogenic mass-like lesions measuring about 29×19mm and 15×20 mm in the upper part of the uterine cavity suggestive of endometrial polyps. An intramural to subserosal myoma measuring 95×68mm was seen in the lower segment of the anterior wall of the uterus. There was a subserosal myoma about 42×43mm observed in the right anterior wall. Both ovaries did have a normal size. Multiple echogenic foci were seen in the left ovary. There was no evidence of endometrioma or limited movement. Some free fluid was seen in posterior cul-de-sac, the left lower quadrant (LLQ) and the Morison pouch. Echogenic foci were seen in the uterine serosa and peritoneal surface of the posterior cul-de-sac possibly due to hemorrhage. There was no evidence of significant peritoneal seeding.

Abdominal and pelvic ultrasound demonstrated normal size of the liver and a diffusely increased echo-pattern in favor of fatty liver (grade 1). No dilatation was visualized in the common bile duct (CBD), and biliary tree,

portal and hepatic vein. The inferior vena cava (IVC) had a normal caliber. The gallbladder had normal wall thickness and echo-translucency. The pancreas and spleen had normal size and echogenicity. Both kidneys had normal shape, cortical thickness and cortico-medullary echogenicity. Both pelvic calyceal systems were not dilated. No mass lesion or detectable calculus was visualized.

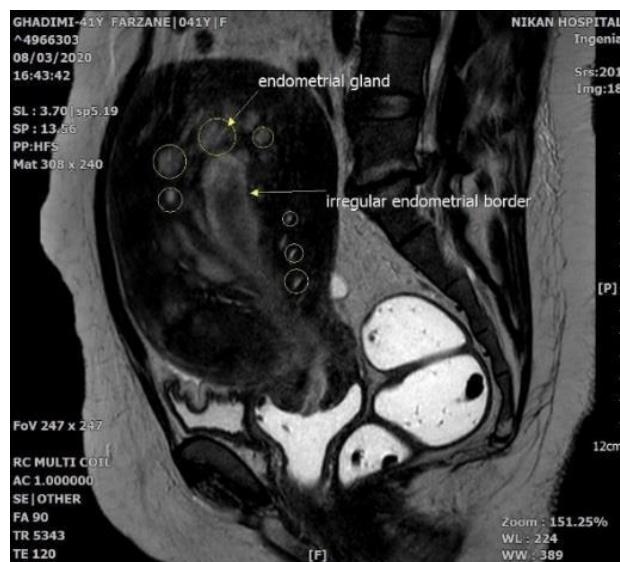
In addition, magnetic resonance imaging (MRI) showed an anterior synovial mass with a uterus in T1 weighted image (T1W), T2 weighted image (T2W) and diffusion-weighted imaging (DWI) sequences with mild enhancement after injection. Numerous oval and cystic lesions adjacent toward the endometrium were observed that caused the uterus to be enlarged. All masses were sub-endometrial. In addition, all sequences and the contrasts were similar to endometrium in various sequences (T1W, T2W, DWI, Apparent diffusion coefficient (ADC), T1+cont).

According to figure 1, position, signal and enhancement, diffuse adenomyosis and adenomyoma in uterine anterior wall were all suspicious. The focus of the hemorrhage around the ADC map of the endometrium

was also marked by the presence of bleeding inside the lesion. The blooming artifact is marked.



**Fig 1a.** hemorrhage around the ADC map of the endometrium is also marked by the presence of bleeding inside the lesion. Blooming artifact is marked.



**Fig.1b.** Adenomyosis in a 41-year-old woman. Sagittal T1-weighted image shows an enlarged uterus with homogeneous signal intensity. Sagittal T2-weighted image shows an ill-defined myometrial lesion of low signal intensity in the anterior myometrium.

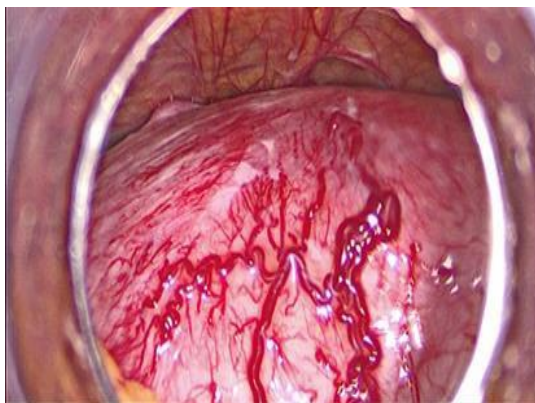
Upper abdominal organs MRI with and without contrast were performed, Axial, coronal T1- T2/w images were obtained in addition: all evaluated organs were normal. Some free fluid was seen in the right sub-diaphragmatic region, Morison pouch and the pelvic cavity.

Serial serum CA 125 ranged from 95.4 from about 2 years ago to 4400 IU/ml before the surgery (Normal reference ranges = 0-35 IU/ml). (Chart 1). The imaging findings of TVUS accompanied with CA-125 level of 4400 IU/ml strongly suggested adenomyosis lesion.

Written consent form was obtained from patient. All procedures were performed under general anesthesia. The patient was administered two units of packed cells before surgery, which hemoglobin reaching to 9.5 g/dl. The patient was placed in the lithotomy position. Direct trocar insertion was performed above the umbilicus. The uterus was enlarged up to 20 week's size and severe adenomyosis was observed.

During laparoscopy, a hyperemic large uterus was observed in the pelvis. Endometriosis implants were observed in uterosacral ligaments and on the right side of the bladder

and the peritoneum attached to the right ureter. Multiple vessels were observed on the surface of the uterine serosa and a manipulator was used to elevate the uterus from the pelvic floor. Uterus was large and heavy, therefore, moving the uterus with a manipulator was not easy, (Fig 2a ,b).



**Fig 2a.** Hyper vascular uterus



**Fig 2b.** Endometriosis vesicular lesions in the posterior wall of the uterus

Due to the possibility of heavy bleeding, ureteral dissection was performed and the origin of the uterine arteries and round ligaments were ligated on

both sides. The bladder was dissected from the lower segment of the uterus and superior portion of the vagina. The vaginal wall was completely separated from the cervix above the uterosacral ligaments and vaginal fornixes delineated by the manipulator. The vaginal cuff was stitched with absorbable sutures. In bag morcellation was performed for uterus. Finally, total laparoscopic hysterectomy with left salpingoophorectomy and right salpingectomy was done. Adenomyosis was diagnosed by MRI findings and CA-125 level, therefore right ovary was preserved. Considering patient's age and level of CA-125, this case may be misdiagnosed with sarcoma and we had to remove the ovaries as it is suggested in various studies (10,11)

Macroscopic specimen at pathology revealed to be uterus, both fallopian tubes and left ovary and consisted of the morcellated material of the hysterectomy, a separated collapsed cyst and 2 fallopian tubes weighing 1284 gram in toto. The uterine cervix measured 3.5 ×2 cm the area enclosing external os measuring 1.4 cm in maximum dimension. The separated cystic structure measuring 5×2×2 cm, the internal surface was smooth and the wall thickness ranged between 0.2 and 1.5 cm,



one fallopian tube measuring 5×0.9 cm, another one 6×0.8 cm a para tubal cyst was noted.

Right ureteral and uterosacral endometriosis, intestinal endometriosis, left uterosacral and urinary bladder endometriosis were observed. The endometrium consisted of several irregular soft tissue fragments mixed with large amounts of blood clots, a little muscle material measuring 5.5×2.5×5.1 cm in toto.



**Fig 3 a** Multiple locations of adenomyotic lesions in a uterus myomatosus.

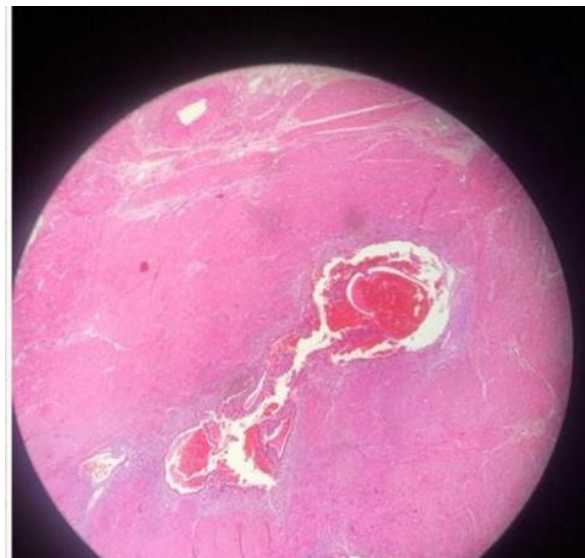
Microscopic findings revealed no evidence of malignancy and histopathology findings did support the final diagnosis (Fig 3):

morcellated hysterectomy and bilateral salpingectomy and left ovarian cyst cystectomy (1284 gram). Chronic cervicitis

with focal polypoid changes and Nabotyan cyst in the uterine cervix. A small intramural leiomyoma and adenomyosis was found in myometrium. An endometriotic cyst and cystic follicles were found in the left ovary. Para-tubal cysts were present in both fallopian tubes. There were superficial right ureteral endometriosis implants, right uterosacral and intestinal endometriosis was found, also left uterosacral and urinary bladder endometriosis. It is worth to mention here that the endometriosis implants in the pelvic were not deep implants.

There was no endometrial hyperplasia or malignancy detected in the operative specimen.

Endometrial curettage revealed large amount of blood clots containing few unremarkable endometrial and endocervical glands.



**Fig 3 b.** 100×magnification photomicrograph of diffuse adenomyosis

One month after operation CA-125 level were within normal range and the hemoglobin level gradually increased to reached to 10.6 g/dl. Histologically, the lesion proved to be extensive adenomyosis.

## Discussion

The optimal cutoff values of serum CA125 for the pre-menopausal group and post-menopausal group was 162 U/mL and 75 U/mL, respectively. In this case, very high levels of CA-125 were observed in the absence of a malignancy.

The glycoprotein CA 125 can be secreted by several cells and enhanced by the inflammatory cytokines (12,13). Several cases of ruptured or unruptured endometrioma and adenomyosis have been reported with CA-125 concentrations as high as 9300 U/ml, (14) 6114 U/ml, (11)7900 U/ml, (12) 1796 U/ml (15) and 1138 U/ml (1). In a study Juang et al. in 2006 found that values of preoperative serum CA125 were significantly higher in the uterine leiomyosarcoma group than those in the

uterine leiomyoma group. The optimal cutoff values of serum CA125 was 162 U/ml. These findings demonstrated that preoperative serum CA125 had a potential role in the differential diagnosis between early-stage and advanced-stage of uterine leiomyosarcoma. (16)

The finding of an incidental increased level of CA 125 challenges the diagnosis. Women with ovarian cancer often have an elevated level of CA 125, however it doesn't always prove to be ovarian cancer. (17) A number of normal and noncancerous conditions can cause an elevated CA 125 level, including endometriosis, liver disease, menstruation, pelvic inflammatory disease, pregnancy, uterine fibroids. Adenomyosis is one of the diseases that can elevate the CA-125 serum level.

The cutoff of 35 IU/L for CA 125 was determined from the distribution of values in healthy individuals to include 99% of the normal population. However, the Mayo clinic reported that this normal value is less than 46 U/ml.

In a study by Pittaway et al. they found that mean CA-125 concentrations increased with severity from  $17 \pm 8$  U /ml in mild disease to

51 ± 51 U/ml in severe endometriosis. CA-125 values more than 16 U/ml indicated endometriosis in 93% of the women. (18)

In the study by Skorstad et al. entitled 'Sensitivity of different preoperative diagnostic tools used in women with uterine leiomyosarcomas' he showed that CA 125 had low sensitivity for leiomyosarcoma, but in advanced stage disease high values were detected (19). Stage IV disease was present in 53.1% versus 25.5% ( $p = 0.01$ ) of women with CA 125 values above 35 kU/L, compared with women with normal CA 125 values. Abnormal value of CA 125 was associated with more advanced disease.

Furthermore, in a study by Babacan et al they reported that abnormally high levels of CA 125 in 19.7% of patients with myoma, followed by significantly higher levels of CA 125 in patients with additional adenomyosis. The mean CA 125 were  $27.3 \pm 38.1$  U/ml. Patients with additional pathologies, in particular with adenomyosis, had higher levels of CA 125 when compared with other patients (20). Furthermore, Takahashi et al. in their study reported that CA-125 level in patients with adenomyosis was 93.3 (21)

The accuracy of using only CA-125 testing for diagnosis is still limited. Serum CA-125 testing with accompanied imaging techniques can be done during initial screenings of women (4). This emphasizes the important role of MRI criteria to confirm the adenomyosis diagnosis in this case report.

MRI is a second-line examination in the diagnosis of internal adenomyosis that can differentiate the subtypes of adenomyosis. T2-weighted imaging showed the junctional zone (JZ) which separates the central endometrium (high signal intensity) from the outer myometrium (intermediate signal). Thickening of junctional zone exceeding 12 mm is the most common sign of adenomyosis.

Histologic diagnosis of adenomyosis include some criteria as follows: the presence of penetrating glands at least in one low-power field from the endo-myometrial junction or 2.5 mm below the basal layer of endometrium or deeper than 25% of overall myometrial thickness. Areas of myometrial smooth muscle proliferation are present around endometrial islands. This is the rare case report of adenomyosis of extremely elevated serum of CA 125 (of 4400 IU/ml).

## CONCLUSION

In conclusion, there is a diagnostic challenge of an extremely raised CA-125. Several disease may cause increased CA-125 level, while this case illustrates severe uterine adenomyosis which is associated with extremely elevated CA 125 levels. Imaging

criteria for diagnosis of adenomyosis is helpful here.

## Acknowledgments

We thank the whole staff of the imaging department of the Nikan hospital specially Dr. Saeed Nasiri.

## References:

- 1- Bast RC Jr, Klug TL, St John E, Jenison E, Niloff JM, Lazarus H, Berkowitz RS, Leavitt T, Griffiths CT, Parker L, Zurawski VR Jr. A radioimmunoassay using a monoclonal antibody to monitor the course of epithelial ovarian cancer. *Knapp RCN Engl J Med.* 1983, 13; 309(15):883-7
- 2- Kenemans P, van Kamp GJ, Oehr P, Verstraeten RA. Heterologous double-determinant immunoradiometric assay CA 125 II: reliable second-generation immunoassay for determining CA 125 in serum. *Clin Chem.* 1993; 39(12):2509-13.
- 3- Zhou Y, Wu B, Li H, [The value of serum CA125 assays in the diagnosis of uterine adenomyosis]. *Chin J Med* 1996;31(10):590-3.
- 4- Kil K, Chung JE, Pak HJ, Jeung IC, Kim JH, Jo HH, Kim MR. Usefulness of CA125 in the differential diagnosis of uterine adenomyosis and myoma. *Eur J Obstet Gynecol Reprod Biol.* 2015; 185:131-5.
- 5- Azziz R. Adenomyosis: current perspectives. *Obstet Gynecol Clin North Am.* 1989; 16:221–235.

- 6- Vercellini P, Parazzini F, Oldani S. et al. Adenomyosis at hysterectomy: a study on frequency distribution and patient characteristics. *Hum Reprod.* 1995; 10:1160–1162.
- 7- Parazzini F VP, Panazza S, Chatenoud L. et al. Risk factors for adenomyosis. *Hum Reprod.* 1997; 12:1275–1279.
- 8- Bergholt T, Eriksen L, Berendt N. et al. Prevalence and risk factors of adenomyosis at hysterectomy. *Hum Reprod.* 2001; 16:2418–2421.
- 9- Vercellini P, Vigano P, Somigliana E. et al. Adenomyosis: epidemiological factors. *Best Pract Res Clin Obstet Gynaecol.* 2006; 20:465–477
- 10- Roberts ME, Aynardi JT, Chu CS. Uterine leiomyosarcoma: A review of the literature and update on management options. *Gynecol Oncol.* 2018;151(3):562-572
- 11- Giuntoli RL 2nd, Metzinger DS, DiMarco CS, Cha SS, Sloan JA, Keeney GL, Gostout BS. Retrospective review of 208 patients with leiomyosarcoma of the uterus: prognostic indicators, surgical management, and adjuvant therapy. *Gynecol Oncol.* 2003; 89(3):460-9.
- 12- Zeimet AG, Offner FA, Marth C, et al. Modulation of CA-125 release by inflammatory cytokines in human peritoneal mesothelial and ovarian cancer cells. *Anticancer Res.* 1997; 17(4B):3129–3131. After hysterectomy according to the surgical indication.
- 13- Zeillemaker AM, Verbrugh H, Papendrecht HHv, et al. CA125 secretion by peritoneal mesothelium cells. *J Clin Pathol.* 1994; 47(3):263–265.
- 14- Johansson J, Santala M, Kauppila Explosive rise of serum CA 125 following the rupture of ovarian endometrioma. *A Hum Reprod.* 1998; 13(12):3503-4.
- 15- Sato H, Borsari R, Yajima EK, Ninomiya T, Saito CS, Kumagai CA. Adenomyoma associated with high level of CA 125 and CA 19-9: case report. *Eur J Gynaecol Oncol.* 2011; 32(4):455-6
- 16- Juang, C, Yen M, Horng H, Twu N, Yu H Hsu W. (2006). Potential role of preoperative serum CA125 for the differential diagnosis between uterine leiomyoma and uterine leiomyosarcoma. *European journal of gynaecological oncology.* 27. 370-4.

- 17- Smith RA, et al. Cancer screening in the United States, 2016: A review of current American Cancer Society guidelines and current issues in cancer screening. *CA: A Cancer Journal for Clinicians*. 2016; 66:95.
- 18- Pittaway D. E., The use of serial CA 125 concentrations to monitor endometriosis in infertile women, *American Journal of Obstetrics and Gynecology*, 1990; 163(3):1032-1035,
- 19 Skorstad M, Kent A, Lieng M. Preoperative evaluation in women with uterine leiomyosarcoma. A nationwide cohort study. *Acta Obstet Gynecol Scand* 2016; 95:1228–1234.
- 20- Babacan A, Kizilaslan C, Gun I, Muhcu M, Mungen E, Atay V. CA 125 and other tumor markers in uterine leiomyomas and their association with lesion characteristics. *Int J Clin Exp Med*. 2014 15;7(4):1078-83.
- 21- Takahashi K, Kijima S, Yoshino K, Shibukawa T, Moriyama M, Iwanari O, Sawada K, Matsunaga I, Murao F, Kitao M. Differential diagnosis between leiomyomata uteri and adenomyosis using CA 125 as a new tumor marker of ovarian carcinoma]. 1985; 37(4):591-5.



## Cervical niche placental remnants removal by the Intrauterine BigattiShaver (IBS) Video Article

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### Abstract

Study Objective: to confirm the validity of the Shaver technique in placental remnant's treatment.

Design: description of the surgical steps through a case report

Setting: Sino European Life Expert Centre of Jiao Tong University, Shanghai

Patient: A 31-year-old woman with a previous history of one caesarean section and one D&C for either a missed miscarriage or termination of pregnancy was admitted to our hospital for vaginal bleeding at 13+4 weeks of gestation. Transvaginal sonography and magnetic resonance imaging revealed a cervical pregnancy with a fetus (BPD 26mm) and an active heartbeat. The internal cervical orifice was completely covered by the placenta which was found to be adherent to the previous caesarean section scar. The clinical diagnosis was suggestive for a cervical caesarean scar placenta accreta. Due to the high risk for a massive hemorrhage and uterine rupture the patient decided to terminate the pregnancy and a second caesarean section was performed.

Two months after the operation a transvaginal ultrasound and magnetic resonance imaging showed a cavity in the lower uterine segment measuring 45 x 51 x 51 mm containing mixed echogenic, vascularized tissue attached to the caesarean section scar.

Intervention: Operative hysteroscopy with the Intrauterine Bigatti Shaver (IBS®) was planned. The 24Fr optical system with SA blade of the Shaver was used. The rotational speed of the blade was between 2100 to 1500 rpm with a suction of 250/500 ml per minute. The cervical canal was distended by the presence of a 50 x 50 x 50 mm dark red tissue mixed with fibrotic placenta and old blood clots densely adherent to the caesarean scar. The lower segment of the uterus and the anterior wall of the cervical canal could not be clearly identified as it was replaced by a very large niche. Placental remnants were completely removed without bleeding. The whole procedure lasted 20 minutes with a fluid deficit of approximately 240 ml of normal saline. No intraoperative complication was observed.

Main Result: Histological examination confirmed the presence of degenerative villi compatible with placental remnants. The patient was discharged from hospital the following day with no postoperative complications.

At 3 months follow up, the patient didn't feel any discomfort and experienced regular periods.

Conclusion: Tissue remnants from a placenta accreta located in a caesarean section scar are extremely difficult to remove. The Intrauterine Bigatti Shaver (IBS®) has already proven to be effective in placental remnants removal. Our case - report indicates that IBS® is also a safe method to remove post caesarean section scar placental remnants.

Key word: Operative hysteroscopy; Placenta accreta; Intrauterine Bigatti Shaver

## References

1. Hooker AB, Aydin H, Brölmann HA, Huirne JA. Long-term complications and reproductive outcome after the management of retained products of conception: a systematic review. *Fertil Steril*. 2016;105(1):156-64e1-2.
2. Ansari SH, Bigatti G, Aghssa MM. Operative hysteroscopy with the Bigatti shaver (IBS®) for the removal of placental remnants. *Facts Views Vis Obgyn*. 2018;153-159.
3. Mi J, Liu F. Rate of caesarean section is alarming in China. *Lancet*. 2014;383(9927):1463-1464.
4. Committee opinion no.529: placenta accreta[J]. *Obstet Gynecol*. 2012; 120(1):207-211.

## Bigatti Shaver Video Tutorial

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### Abstract

The Intrauterine BIGATTI Shaver (IBS<sup>®</sup>) (KARL STORZ SE & Co. KG) represents a new approach to operative hysteroscopy. The Shaver technique by removing the tissue chips at the same time as their resection, improves visualization during the procedure, reducing several problems of conventional resectoscopy such as fluid overload, water intoxication, uterine perforation, and long learning curve for a surgeon. The aim of this lecture is to give all practical tips necessary to correctly use the Bigatti Shaver. The learning curve of this new technique is very fast only if all the necessary parameters and set up are strictly respected. Better vision can be achieved only following all the suggestions included in this tutorial.

### Key words:

Operative Hysteroscopy; Intrauterine Bigatti Shaver; IBS<sup>®</sup>

## Deep laparoscopic placement of mesh in urogynecology, how to avoid exposure and organ-displacement. The way to perform tissue enhancement by laparoscopy. A didactic video.

Author: Günter Noé<sup>1,2</sup>

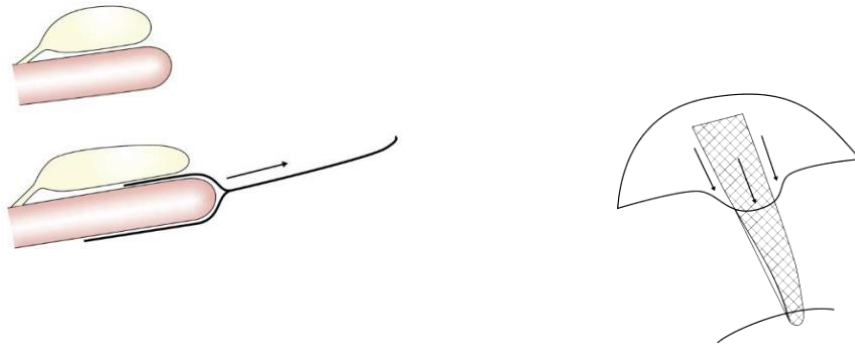
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Keywords: laparoscopic sacropexy, pectopexy, native tissue, exposure reduction

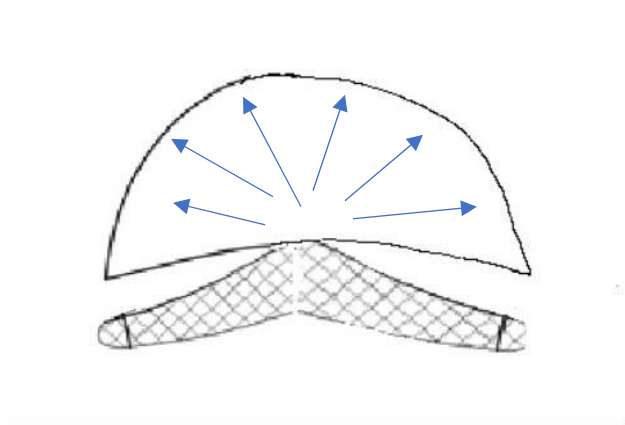
Sacropexy is considered the gold standard in the field of laparoscopy. Ultimately, this is based on many hundreds of single center studies. However, there are few RCTs and there is a complete lack of prospective multicenter studies that focus primarily on the safety of implementation by surgeons who rarely operate.

Even if the essential mesh problems are restricted to vaginal surgery, erosion problems or mesh infections are not uncommon in sacropexy either. In addition, especially in sacropexy with deep mesh placement, cystoceles and rectoceles are often compensated by pulling them cranially. This very often leads to a cranial displacement. The latter causes an increased rate of stress incontinence (1-3) and, in the long term, leads to longitudinal shear forces on the vaginal wall. (Pic 1-2) Since the tissue is usually thinned, this increases the risk of erosion over the years. The pectopexy does not allow any significant cranial pull as the lateral suspension is much closer to the natural apex than the promontory. The distribution of forces in the pelvic floor is more balanced which leads to significant less shear forces compared to sacropexy (4). From the beginning, the technique was carried out in combination with native tissue reconstruction. Reinforcing the vaginal walls with mesh makes sense in approx. 5-8% of cases (large prolapse; relapse). As described above, this tissue is often severely thinned by stretching. Therefore, we

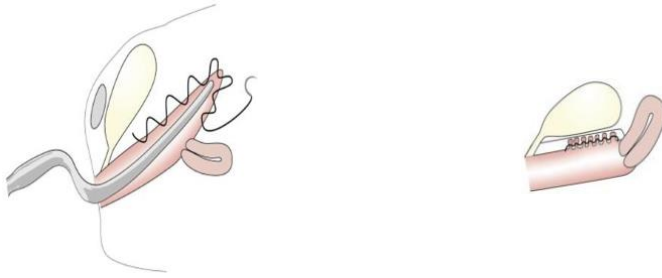
always compress the tissue before fixing the mesh (pic 4) (5, 6). In this way it is possible to generate a natural vaginal length and width and thus a tension-free tissue reinforcement with the mesh. In the video we show the installation of a PVDF mesh as a pectopexy with a deep mesh insert and the corresponding preparation of the native tissue.



1) Organ displacement by pulling. 2) Longitudinal shearing forces on the overstretched tissue.



Distribution of forces in bi-lateral fixation (Pectopexy).



#### 4) Tissue enhancement by suture technique.

1. Leruth J, Fillet M, Waltregny D. Incidence and risk factors of postoperative stress urinary incontinence following laparoscopic sacrocolpopexy in patients with negative preoperative prolapse reduction stress testing. *Int Urogynecol J*. 2013;24(3):485-91.
2. North CE, Ali-Ross NS, Smith AR, Reid FM. A prospective study of laparoscopic sacrocolpopexy for the management of pelvic organ prolapse. *BJOG*. 2009;116(9):1251-7.
3. Thubert T, Naveau A, Letohic A, Villefranque V, Benifla JL, Deffieux X. Outcomes and feasibility of laparoscopic sacrocolpopexy among obese versus non-obese women. *Int J Gynaecol Obstet*. 2013;120(1):49-52.
4. Bhattarai A, Staat M. A computational study of organ relocation after laparoscopic pectopexy to repair post-hysterectomy vaginal vault prolapse. *Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualization*. 2019:1-10.
5. Noé GK, Schiermeier S, Anapolski M. Defect Oriented Strategy Reducing mesh in pelvic floor surgery by laparoscopic approach *TheTroc*. 2020;1(1):6-9.
6. Noé G. Genital Prolapse Surgery: What Options Do We Have in the Age of Mesh Issues? *Journal of Clinical Medicine*. 2021;10(2).



## Introduction of a modified laparoscopy trocar insertion method (AmenMethod) Video article

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### Abstract

This video article is an introduction of a modified laparoscopy trocar insertion method (Amen Method) according to the findings in comparison with the direct trocar insertion method. The incidence of complications such as gas leakage in this new method is low. In addition, it is easily-trained method with any available tool in a short time for trocar insertion.

Amen technique can be used as a safe, reliable and easily-trainable modified entry method instead of direct method for laparoscopic surgery.

Conclusion: The available data suggest that the incidence of complications with this method, with the exception of gas leaks, is comparable to the direct method. In addition, it is easy to learn and can be performed in a short time using the normal tools available. The Amen technique offers another option for safe port placement procedures.

## ISGE Annual meeting 2021 in Split Croatia

Hisham Arab Price 2021!



### HISHAM ARAB PRIZE 2021

Date: 9/9/2021

At 1400 hours of 27 August 2021 the Hisham Arab Prize session was held at room Brac III of Le Meridien Hotel in Split, Croatia.

5 contestants met the criteria for inclusion in this competition, & because of the absence of the Macedonia speaker, only 4 competed for the prize. 2 judges (Dr Paya Resad & Dr Hisham Arab) along with 5 referees from the audience who also participated in the contestant's evaluation. Criteria used for judging the presentation included: originality of the work, level of technique or methodology, relevance to our practice, benefit to the patient, and quality of slides & sound.

Out of 100 marks the following marking was attained by the contestants:

- 1) Robert Carey, from Australia = 84%
- 2) Megan Cesta, from USA = 81%
- 3) Tanvir Carey, from India = 66%
- 4) Anne Sophie Maryns, from Belgium = 59%

The name of the winner who was announced at the closing ceremony on Sunday 29 August 2021 was:

Dr Robert Carey, from Australia, for his presentation titled: Use of Regenerative Medicine for management of Vaginal Mesh.

Please note that because all the presentations were recorded for virtual competition during this covid time of difficult travel, I still have the plaque and the awarded monetary prize of \$1000.00 till the winner respond to the ISGE secretariat to receive his Prize.

Thank you

A handwritten signature in black ink, appearing to read "Hisham Arab".

Hisham Arab, MD FRCSC FACOG  
ISGE EXCO member

