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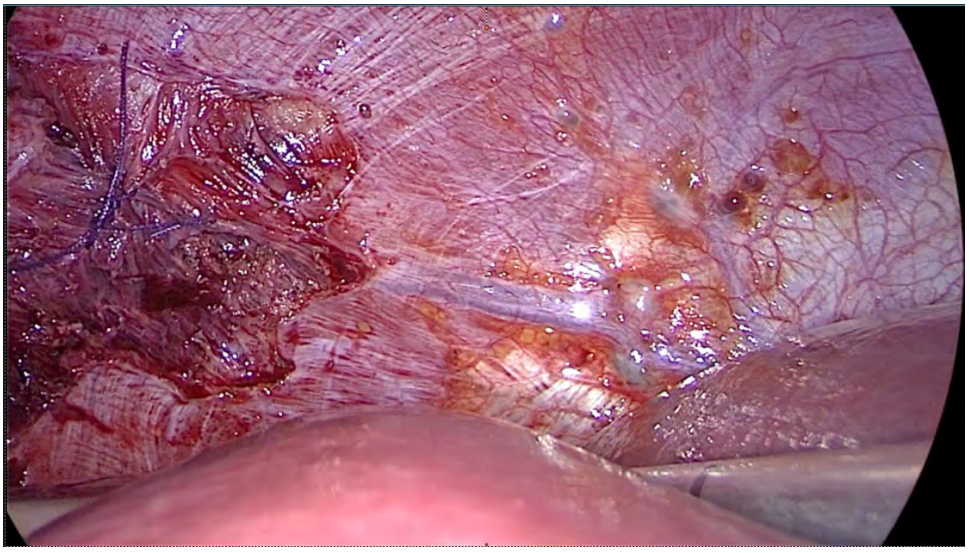

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The frontpage shows funneling of the urethra in Valsalva (Article 1) and a phrenic (Diaphragm) endometriosis

ISGE meets two times in Africa 2022!

Now that the pandemic seems to be easing, the world faces man-made disaster once again. A war in the middle of Europe affects the whole world because it has enormous economic consequences. The complex network of globalized trade relations gave us hope that people would take it into account and that we would be spared these undignified conflicts.

Unfortunately, the political developments of the past few decades do not point in the direction of lasting understanding between peoples. The climate crisis threatens mankind more and more obviously and even the last deniers should slowly fall silent. Therefore, it is important to continue to believe in the cohesion of people and to promote it.

ISGE tries to make a modest contribution to this. It is important that people from different cultures, countries and continents come together and have a common sense (in our case the medical care of women) on which they can work together. The support of women is a very important point, as there is still a clear discrimination against women around the world. The most recent example from the USA is particularly alarming for all liberal states.

After our successful meeting in Morocco, we will be visiting Africa again in September. In Cameroon we are organizing the second regional meeting and are happy to be able to pass on knowledge in the heart of Africa. But we too can always learn new things and reflect on our actions, since we are often trapped in our local bubbles by our own demands, such as those of our patients. Therefore, I would like to encourage all ISGE members, including non-members, to attend or get involved in our meetings. Become a member of ISGE! Our Special Interest Groups (Taskforces) are open for interested members. A non-profit organization like ISGE is always dependent on many helping hands. All are welcome as we see ourselves as a global community.

Best regards and enjoy Issue 2 Volume 3 of TheTrocar

Guenter Noé

Editor iC.

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Recommendation for diagnosing pelvic floor defects ISGE Special Interest Group Uro-Gynecology ISGE

Author: Guenter K. Noé, Usama Shahid, Ajay Rhane, Michael Anapolski

Affiliation: [1] Special interest group pelvic floor ISGE

Abstract

Introduction

Uro-gynecological issues affect women to the same extent worldwide. The requirements for treatment and the options available differ from region to region, from country to country.

Aim:

The SIG Uro-Gynecology would like to give general recommendations to get a good diagnosis. This is the basis of good treatment. SIG tries to consider the different possibilities of different continents, countries and regions.

Key words: pelvic floor, basic, diagnostics, ISGE

Corresponding author: Guenter Noé
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Introduction:

Pelvic floor defects are by definition a benign disease. This requires from us as doctors, in addition to considering the symptoms and defects, to also take the greatest care to produce the fewest possible side effects of our therapy. When treating malignant diseases, we often accept disturbances in the area of the nerves or vessels, since the treatment is about the survival of the patient. In the case of pelvic floor defects, a woman's life can be very limited, but the condition is never life-threatening. For a long time, the reconstruction of the pelvic floor was mainly based on anatomical changes. This was reinforced by the focus on changing the POPQ before and after operations. In recent years, the focus has shifted more to "positive", "functional" clinical changes and satisfaction scores have been introduced (1-6).

During the first decade of the third millennium the focus was still on increasing effectiveness and new materials and repair systems were sought after in order to be able to offer even longer-lasting processes. The risks were somewhat forgotten and new, sometimes severe complications led to bans and severe restrictions in the choice of therapy in many countries.

Therefore, a return to a good diagnosis is very important in order to be able to develop a therapy that is both tailored and as individual as possible for our patients. Because there is no one-fits-all solution, or it has been shown that these systems entail high risks, as they often generate over treatment (5).

Requirements for a good anamnesis:

It is recommended to ask the patient for her complaints and let her speak an describe these in her own words. This is important because the extent of a pelvic floor defect does not necessarily correlate with the perceived symptoms. (Important Note*: A patient without symptoms should not be treated surgically even if there are clear defects*).

Since incontinence is often associated with pelvic floor defects, it is advisable to have the patient keep a **voiding log** for a week. It can also be very helpful in helping the patient understand the difference between SUI and Urgency. Especially with regard to symptoms after surgical therapy, it is important to document the symptoms in an understandable way so that they can be classified later with the patient.

It can be very helpful if you adopt a personal oral questioning scheme. However, some colleagues also prefer questionnaires regarding the symptoms or so-called quality of life questionnaires.

<u>Important Symptoms:</u>

- pelvic pressure
- urgency
- incontinence

- bleedings (erosion) (Pessary or mechanical due to prolapse) (uterus?)
- prolapse of the uterus or the vagina
- urinary retention- Residual urine and chronic infections
- reduced Urinary Flow

Cases and reasons or side effects to be evaluated:

- Obstetric history
- Obesity?
- Previous surgery
- Medication
- Diabetes
- Nerve affections

Important is a basic analysis of the urine. Rapid tests (strip tests) have insufficient sensitivity, so in women with dysuria a urine culture with antibiogram should be performed. Strip test for screening for the detection of microhematuria

Urine culture for urge incontinence to exclude bladder infection

Residual urine determination, preferably sonographically, if necessary with a disposable catheter

A residual urine of more than 50 ml immediately after micturition can be an indication of a bladder emptying disorder. If vaginal ultrasound is used for the measurement, 30 ml has been described as the upper limit of a normal residual volume, after single catheterization higher limits can be accepted. Note the renal conveying rate of 1– 14 ml/min, which can lead to incorrectly high values if not measured in time.

Further clarification of the causes makes sense: e.g. obstruction of the urethra as a result of descensus or stricture due to trauma or inflammation, detrusor insufficiency of various origins such as neurological disease or post-traumatic. (surgery)

Role of Ultrasound:

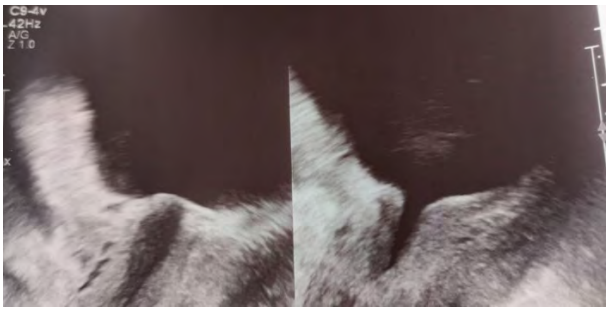
Ultrasound provides the examiner with a dynamic view of the pelvic floor. Perineal sonography can be performed with a curved array, but a vaginal probe is also very suitable for imaging the pelvic organs. It is particularly valuable to see the situation and relationship of the organs in normal position, but also in motion. The patient should be instructed to press in different strengths, but also to cough repeatedly. Thus, the bladder neck and bladder bottom can be displayed very well. Midline defect can be easily seen and the wall thickness of the anterior vaginal wall can be assessed very well.

The bladder neck and urethra are also very easy to illustrate and under stress the behavior of the organs can be represented. This in turn allows conclusions to be drawn about possible disturbing factors. For example, incorrectly positioned incontinence tapes that constrict the bladder neck under load can be seen on ultrasound without much practice.

Basic Parameters:

- Position and mobility of bladder neck Bladder neck descent – cut off value: 20 mm
- Bladder neck–symphysis distance (BSD): 20 – 30 mm
- Urethral inclination
- Retro vesical angle - normal value of 90–120°
- Urethral length: 30 - 45 mm

The so called “funneling” of the upper part of the urethra expresses a SUI, sometimes it is possible to detect a jet (Pic.: 1)



Pic.: 1 Funneling in case of SUI

It is also possible to observe the longitudinal movement of the pelvic floor. Especially dorsal, this indicates a high risk of recurrence for posterior defects. On the one hand, the stability of the pelvic floor muscles can be palpated well, especially the ability of the patient to actively control the muscles is very easy to check with palpation, but ultrasound can also visualize the concentric work of the muscles very well. This helps, above all, the patient to observe the activity of the muscles herself. This works very well with a normal vaginal probe. With ultrasound, an avulsion (rupture of the levator muscle) can be well excluded or confirmed (Pic.:2).

Pic.2: Vaginal probe: dynamic examination of the levator muscles to exclude an avulsion and good representation of the pelvic floor muscles.

Pic 3-5 more give more examples or reasons for ultrasound evaluation

Pic.: 3 Twisted tape horizontal

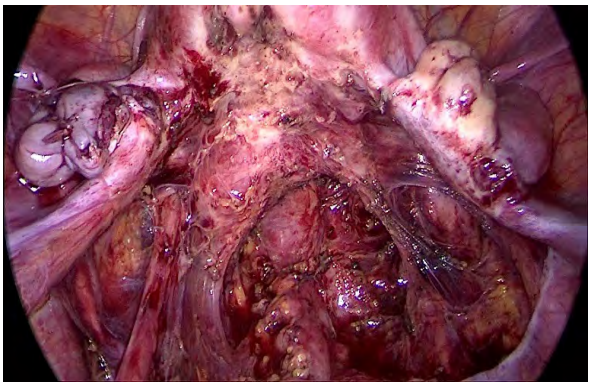
Pic.4: Tape lying too high with a pointed retraction of the bladder.

Pic. 5: Midline Zystocele

Defects and Symptoms:

Apical Defect: **Level 1**

This describes the subsidence of the apical suspension of the pelvic floor, essentially the utero-sacral complex (Pic.: 6). This begins with the tissue that encircles the cervix and radiates laterally and dorsally to the deep pelvic wall. It is important to know that the fixation is low (S4-5) and not erroneously on S2. There you only find a duplicate in the peritoneum, which does not reach the sacrum!



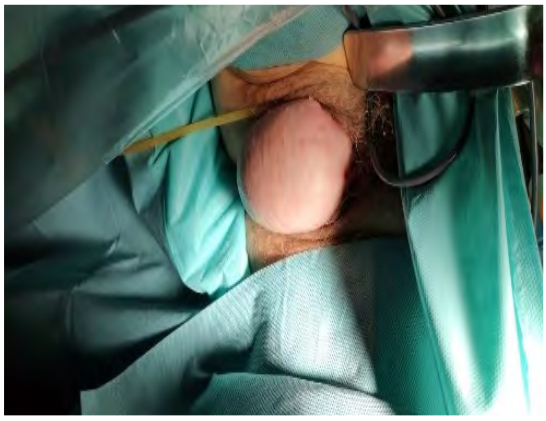
Pic.6: In this picture (endometriosis surgery), the deep insertion of the USL is clearly understood. No currently existing technology can reconstruct this structure 1:1!

The laxity of the USL complex often leads to the immersion of the uterus in the vagina and the resulting compression, it comes to the typical feeling of pressure and heaviness in the deep pelvis. Just over 50% of women report a chronic feeling of urgency of the bladder. This can be caused, among other things, by the stretching or compression of the deep nerve fibers. In about 80% of cases the urge improves or disappears after the prolapse is corrected (8).

Anterior Compartment **Level2:**

It is important to differentiate between lateral defect and mid line defect. Both usually occur in different decades and have distinguished origins. While the lateral defect is usually a delivery trauma with a strong elongation of the lateral parts of the pelvic fascia, the mid line defect develops over time. In pure form, both are easy to distinguish. The lateral defect is characterized by the fact that the rugae

of the vagina are still completely or well preserved, but the vaginal wall passes between the labia. In the case of midline defects, the rugae are dissolved or hardly preserved. Midline defects (Pic.:7) are often associated with urinary retention, while in the case of lateral defects (Pic.:8), SUI dominates.



Pic 7: Midline defect

Pic.8: lateral defect

Posterior compartment: **Level 2**

The posterior vaginal wall can be overstretched by high weight and especially by delivery. The location of the defect results in different clinical symptoms.

The upper third of the posterior vaginal wall forms a part of the pouch Douglas and is thus completely exposed to the pressures of the abdomen. The lower two-thirds form the dorsal end of the pelvic floor together with the rectum. If the patient develops a rectocele (lower 2 thirds of the dorsal vagina), this can cause the rectal ampule to fill up excessively. On the one hand, this creates pressure in the pelvic floor and often leads to an outlet problem. In extreme cases, patients must digitally remove the stool. Strong pain by defecation can be an indication of an intussusception. This means an internal invagination of the rectum. This cannot be remedied by conventional gynecological techniques. Enterocele (upper third of the posterior vaginal wall) occur predominantly after hysterectomies or in the context

Occasionally, due to a lack of good prior diagnosis, they occur after vaginal rectocele correction and then lead to pinching symptoms with pain. In the literature is used to classify the prolapse of POPQ. The nomenclature can be found online and in most textbooks. .
However, the system also knows the simpler graduation stage 1 to 4, which ultimately corresponds to the older Baden-Walker classification.

Stage 1	Middle of Vagina
Stage 2	Reaches the Hymen
Stage 3	Exceeds Labia
Stage 4	Complete Prolapse

In the daily routine, therefore, graduation according to this simple system is often used.

For example: Level 2 anterior midline Stage 2

Conclusion:

Worldwide, there are very different ways to correct pelvic floor defects. However, the diagnosis and evaluation of complaints can be structured very uniformly and is decisive for the success of treatment. Anamnesis and gynecological examination are possible under simple conditions. Ultrasound examination by the gynecologist is not common in every country and perhaps the technical equipment is not available. However, this technique is very helpful to evaluate pelvic floor defects and if possible, urogynecologists should familiarize with the technique. The demand and expectations concerning treatment is also very heterogeneous and certainly differs culturally or in terms of standard of living, so no uniform recommendation can be given in this regard. The article tries to highlight the basis as well as the options in diagnostics and to underline the importance of good examination.

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Endometriosis Coping and Awareness Bundle (ECAB)

Author: Hisham Arab [1]; Tahani Almotrafi, [2]; Afaf Felemban, [3]

Affiliation:
[1] Dr Arab Medical Center, Jeddah Saudi Arabia
[2] Maternity and Children Hospital, Makkah, Saudi Arabia
[3] King Saud bin Abdulaziz University for Health Sciences, College of Medicine, Riyadh, Saudi Arabia

Abstract

Women suffering from endometriosis have always been misdiagnosed. Their misdiagnosis leads to years of suffering and pain before their illness is truly detected. Educating women about endometriosis is an important part in the management of endometriosis, however what appears to be more essential is raising awareness of the disease and its impact among primary health care professionals and the public. This lack of awareness is usually combined with a tendency to accept that pain is a part of menstruation. After years of conducting endometriosis education and applying endometriosis care to patients in our clinics in three different cities across Saudi Arabia - Jeddah, Makkah, and Riyadh - coupled with two pilot studies, we took the initiative of compiling this knowledge into this Endometriosis Coping and Awareness Bundle (ECAB) in an attempt to provide physicians and the public with a proper tool that supplements medical care. ECAB targets promoting endometriosis awareness in the medical, institutional, and social setting. It emphasizes the importance of putting endometriosis patients in the limelight and providing them with the support they need so they could feel victorious rather than victims. The message that this bundle is trying to relay is that our society has to overcome its cultural inertia and raise awareness of this misunderstood and neglected condition.

Key words: Endometriosis, patient care, tool, awareness, education.

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Corresponding author: Hisham Arab

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Introduction:

The presence of endometrial-like tissues outside of the uterine cavity, otherwise known as endometriosis, is a chronic disease associated with pain in the pelvis, along-side infertility. Endometriosis is not a malignant disease, on the contrary, it is an estrogen-dependent, gynecological disorder. The side effects associated with endometriosis and the fact that it is a life-long inflammation, make it a critical disease that impacts the medical, social and economic aspects of a woman's life (1).

The causes of endometriosis appear to be multifactorial, involving genetic, immunological and environmental factors, with many theories postulating how it might have evolved (2). Women suffering from endometriosis often describe symptoms that simulate other conditions (3). The interplay of all these factors could cause a missed diagnosis or a diagnostic delay which could lead to some women getting a diagnosis up to 7 years later.

Endometriosis is a common gynecological condition around the world, reported in around 10% of women of reproductive age (4). Although endometriosis affects women during the prime years of their lives, it should be noted that there are also documented cases of women with endometriosis after menopause; it may also occur in adolescent girls (5). The most obvious complaint of women with endometriosis is pain. Additionally, endometriosis is in many women the cause of infertility and the deterioration of the quality of life with psychological impact (1).

The situation relevant to endometriosis is no different in Saudi Arabia. A survey of the literature on endometriosis revealed only 10 studies conducted on Endometriosis in the Saudi population until the end of 2020. Two retrospective studies on gynecological laparoscopies performed by Sendy et al in 2017 and Rouzi et al in 2015, included 785 surgeries in total and reported a 13.5% prevalence of endometriosis (6, 7).

The treatment of endometriosis could either utilize medications or surgery or a combination of both. These two methods could prove effective, however not without side-effects. Furthermore, neither of these treatments wipes out the disease, as lesions that have been surgically removed can recur and discontinuing medications can cause symptoms to reappear (3).

Given that there are no known methods to prevent endometriosis at the current time, the best approach to assist the woman suffering from endometriosis is to effectively manage this disease through raising awareness and enlisting a team of multidisciplinary professionals, including but not restricted to a pain specialist, physiotherapists, gynecologists, and psychologists.

Educating women about endometriosis is an essential element of the process of managing endometriosis. A New Zeeland program on menstrual health and endometriosis education in secondary schools, which also observed age patterns of young women presenting for menstrual morbidity care, reported strong suggestive evidence for the first time that consistent delivery of a menstrual health program in secondary schools increases awareness of endometriosis and may promote timely presentation of young women to specialized healthcare services (8).

What appears to be more critical however is raising awareness of the disease and its impact among primary health care professionals and the

public. This lack of awareness is usually coupled with the normalization of pain during menstruation (9). A quantitative study conducted by Grundstrom et al in 2018 proved that women with endometriosis encounter difficulties with general practitioners when describing their symptoms. They further concluded that women all over the world seem to suffer diagnostic delay and normalization of their symptoms (9).

After years of conducting endometriosis education and applying endometriosis care to patients in our clinics, coupled with pilot studies (unpublished data) that we have conducted to better understand the perception of pain and prevalence of endometriosis, the concept of compiling this knowledge into this Endometriosis Coping and Awareness Bundle (ECAB) was conceived by the main author and supported by the coauthors and their team over the past one year in an attempt to provide the public with a proper tool to implement purposely designed activities that raise awareness about endometriosis among health care providers, women, men, adolescents, teachers and wider communities.

Material Method:

We developed the Endometriosis Coping & Awareness Bundle (ECAB) with women who suffer from endometriosis in mind. The bundle was formulated after our Group of experts conducted extensive investigation into endometriosis that included pilot studies, field work, and awareness campaigns in three different cities across Saudi Arabia: in Jeddah, Makkah, and Riyadh.

After the establishment of the Saudi Endometriosis Group in 2013, the first of its kind in the Middle East, this Group has lead several activities to raise awareness and educate on endometriosis including medical conferences and annual meetings, developing a website dedicated to the disease, producing brochures in Arabic and English, interviews and appearances on television, public awareness campaigns in malls, universities and schools, social media campaigns and several events to highlight the impact of endometriosis on women's health most prominent of which was the 'Art of Endometriosis' event that featured photographers and painters.

The ECAB was a labor of tailored duty work during and outside the daily clinical working hours. It was designed after our Group observed a rising need to help endometriosis patients to cope with the painful attacks and to lead a productive and optimistic lifestyle.

This bundle is a compilation of procedures, techniques, packages, and plans to help improve the management outcome of endometriosis. It was developed in an attempt to turn around the miserable quality of life that women with endometriosis have to strive through taking into consideration the physiological, psychological, and social impact of this disease. Instead of enduring pain, deprivation, medications and their side-effects during an endometriosis attack, women who have been targeted by this awareness bundle would instead endure their pain while knowing how to handle their endometriosis attack, accepting lifestyle modifications, and practicing self-control (**Figure 1**).

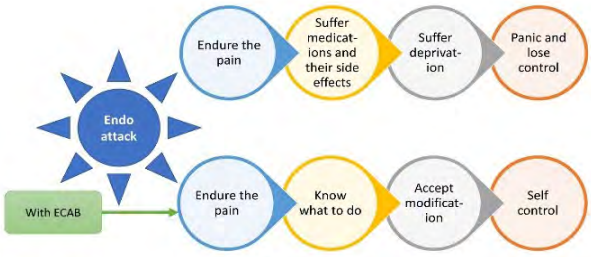

Figure 1 – Endometriosis and quality of life.

Its implementation requires teamwork headed by the primary endometriosis laparoscopist and the endometriosis educator. More physicians, surgeons, nurses, technicians, and volunteers can be enrolled if willing.

Pilot Studies

Pilot Studies

Two pilot studies were conducted by our team a few years ago (unpublished data), the results of which were considered the basis of developing ECAB. The studies were approved by a local ethical committee and all participants were consented. The first study assessed the incidence of dysmenorrhea among Saudi girls. The study included healthy unmarried girls attending school or enrolled in their first years of college. A total of 2400 Saudi girls under the age of 21 years filled a questionnaire that was circulated via email to 5000 participants. Our data revealed that the prevalence of dysmenorrhea and pelvic pain among Saudi girls was 88%. More than 1400 (58.3%) of these girls had dysmenorrhea during the first 2 days of menstruation, while only 141 (6%) of them had it throughout menstruation. The prevalence of dysmenorrhea along with pelvic pain outside the menstrual phase was reported in 249 (10.4%) of the surveyed girls, whereas only 288 (12%) reported no pain or dysmenorrhea at all (**Figure 2**).

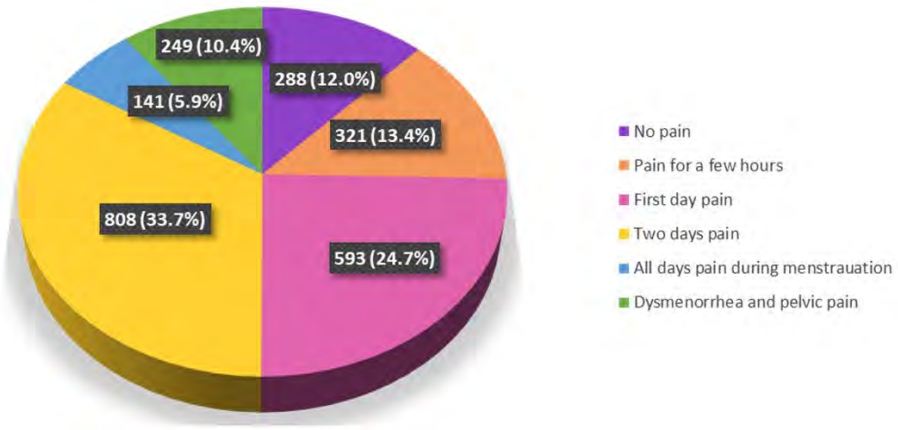

Figure 2: Prevalence of pain and its duration during menstruation in Saudi girls. Data is presented as numbers (percentage, %).

The study also surveyed the girls to check whether any of them sought medical advice for their dysmenorrhea. Around 300 (14%) of those surveyed went to see a doctor, and of those 55% had a transabdominal pelvic ultrasound, 4% of which showed an ovarian cyst. None of the girls checked by a doctor were prognosed with endometriosis. While these girls could have been the victims of endometriosis, no attempt at raising awareness or discussing the possibility that they could have an endometriotic lesion was mentioned.

The second pilot study was conducted during awareness campaigns that were held at malls, universities, or schools. During each campaign, short questionnaires were distributed to understand which medium was of preference for women who wanted to learn more about endometriosis. Of the 500 women surveyed, around 304 (60.8%) women mentioned that they would prefer social media as a way of disseminating messages relevant to endometriosis. The remaining 113 (22.6%) opted for television campaigns and programs, 57 (11.4%) women preferred the internet, 20 (4%) chose the physician's clinic, and 6 (1.2%) women selected other channels.

Results:

The results of our above pilot studies coupled with our knowledge of endometriosis care, collaborative efforts and raising awareness along the years has led us to develop the following elements of the ECAB in the medical, institutional, and social setting (**Figure 3**).

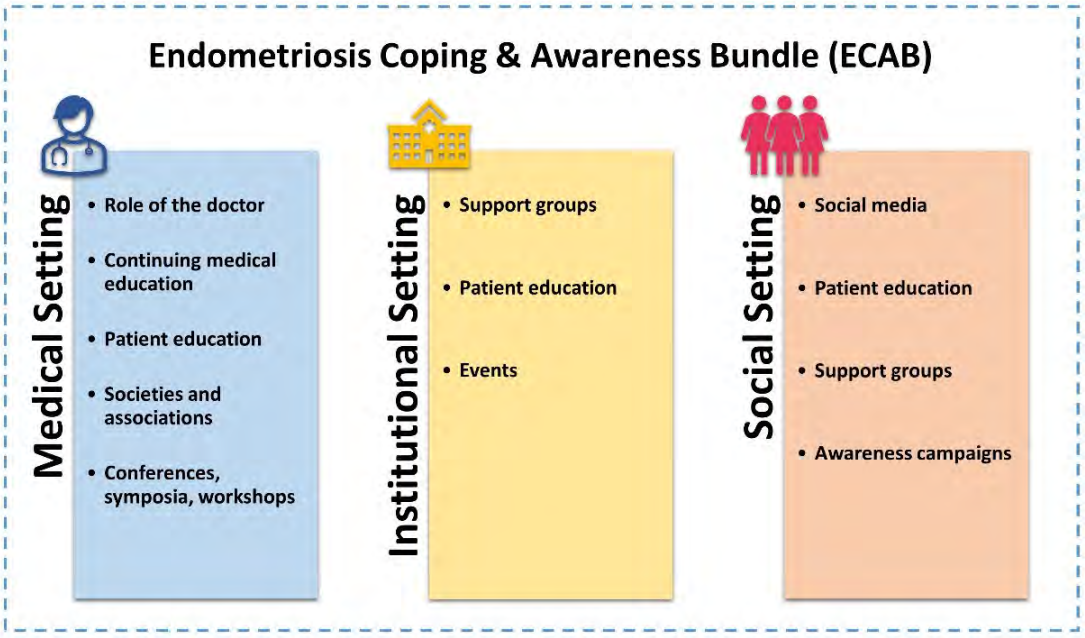

Figure 3: Methods for approaching and educating patients with endometriosis.

Medical Setting

The medical setting involves developing educational programs for both the patient and the medical practitioner. At a primary level, the medical practitioner should be educated with the

proper methods of communicating with a patient, particularly with someone suffering from endometriosis. In general, and throughout our practice, we have noted that medical practitioners tend to startle women when for example they try to compensate for their inexperience of proper endometriosis management, display a lack of vigilance, and mention exceptionally bad cases of endometriosis (10). As a result, the women suffering from this disease become more anxious and depressed. Instead, it is advisable to mention the many successful cases of endometriosis that have been managed. A proper management plan would include listening to the patient, giving her time to understand and ask questions, and eventually calm her down and establish a treatment plan, even if it involves referral to a proper center (**Figure 4**).

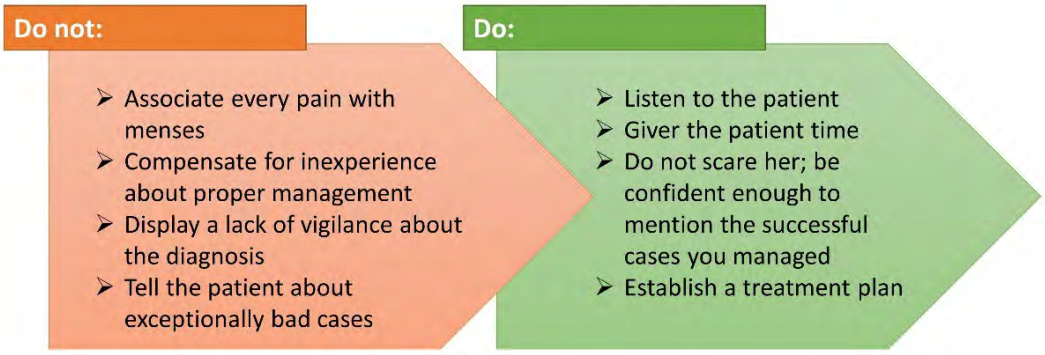

Figure 4: The direct role of the doctor

Medical practitioners should also continue to expand their medical knowledge and learn about the advances in endometriosis care. This can be achieved by attending continuing medical education sessions, conferences, symposia, and workshops. It is advisable that the medical practitioner join a society or association with endometriosis as its primary target. It is of interest to mention that 10 years ago there was hardly any medical conference devoted to endometriosis alone. Endometriosis used to be discussed among other subjects in general gynecological meetings. Nowadays there are about twenty endometriosis medical conferences per year around the globe.

Patient education is another important element that physicians should practice at their clinic. Not only that, but patient education spans the three settings detailed in our ECAB. Teaching women about endometriosis is of utmost importance, and special attention should be paid to girls in their teenage years, as this category is mostly left out when developing brochures or conducting awareness. Utilizing patient education materials such as written guides, videos, audiotapes, books, and pamphlets can greatly increase a

patient's awareness of her chronic disease but does not replace an on-going discussion with her health care provider. The healthcare provider should inform patients about ways to deal with their chronic pain so that they can attend school, participate in sports, or enjoy social events. Compliance and medical follow-up will improve significantly for patients with dysmenorrhea or endometriosis who are active participants in their health care.

Creating educational material for endometriosis begins by obtaining feedback from patients with endometriosis through venues such as focus groups, questionnaires, and peer review of written material. Then the educational material can be developed in a personal, conversational style with a question-and-answer format. It is important to know that patients want to have their feelings acknowledged without a condescending tone. They appreciate nonjudgmental statements and want information to be clear and simple with limited medical jargon and abbreviations. Providing a list of additional resources such as web sites and books is of added value for these patients (11).

Institutional Setting

In the institutional setting, psycho-educational interventions designed to facilitate adaptation to the challenges of chronic disease and promote self-management were introduced in the United Kingdom in 2002 (12). Participants were found less anxious, less depressed, and scored better on all of the self-management techniques after self-management training; they felt more in control of their disease.

Patient education classes and group counselling in the institutional setting are pivotal for any endometriosis awareness program and well known to decrease anxiety and depression in endometriosis patients and improve their quality of life. A randomized controlled trial was conducted by Farshi et al in 2020 on 76 women with endometriosis randomized to either intervention – a seven-week self-care group counselling sessions- or control which involved routine care. The study revealed a significantly lower score of trait anxiety and state anxiety in the intervention group. Moreover, the mean score of quality of life for physical health and for mental health were significantly higher in the counselling group than in the control group (13).

The benefits of a support group are many. They let the woman know that she is not alone, allow her to learn new coping techniques and share her experience. In general, the patient support group for endometriosis should include a group of patients sharing the same medical condition, endometriosis in this case, offer a forum for comfort and encouragement, be non-profitable, provide free printed or digital information or suggest social media accounts. The purpose of this support group would be to create networking with other patients in-person or even virtually. An important point to highlight about support groups is that the person leading this group should emphasize listening, know the facts, be assertive, and understand how to lighten the mood and make the experience a fun one. Therefore, it is advisable that the session leader be a health professional such as a nurse or a non-health professional but with extensive knowledge of endometriosis and firsthand experience in this condition.

The role of the medical practitioner should be extended to the support group. It is essential that the practitioner try to attend some of these sessions in show of support and also to answer any questions that might arise. It is also

important that the medical practitioner who participates in patient education or support groups be a gynecologist with knowledge of laparoscopic surgery, knowledge of female sex hormones and someone who regularly attends continuing education sessions relevant to endometriosis.

Social Setting

Using the internet for information and support has become one of the main outlets whereby patients search for information. In 2013, online health Information was accessed by 43% of adults in the United Kingdom and 72% in the United States (14). The purpose of going online was to read about other people's experience of a health-related problem in 25% of those accessing the internet or to find others with the same problem in 16% of those accessing it.

Shoebotham et al in 2016 explored the therapeutic affordances of an online support group among 69 women with endometriosis. The analysis of the women's perception revealed an array of positive aspects that benefited women when it comes to using an online support group. The four therapeutic gains listed by the authors were connection, exploration, narration and self-presentation (15). Similar findings were reported by Merolli et al in 2014 for people with chronic pain (16).

Women suffering from endometriosis could also benefit from information available on the internet, particularly on blogs. Research conducted by Neal and McKenzie in 2011 revealed that blogs that were authored by women with endometriosis who shared their experiences had informational value to other women, particularly when it comes to providing them with emotional support and increasing their knowledge. Furthermore, the endometriosis patient who blogs about her experiences was reported to determine authority of information sources through both cognitive and emotional methods (17).

To develop an endometriosis blog, it is important for the blogger to have a shared experience with her audience, a fellow sufferer from endometriosis. The blogger normally starts by searching for information and formulate her resources. Following this step, the blogger should acquaint herself with others suffering from endometriosis and this would ideally happen through participating in support groups. This will not only allow the blogger to collect 'consumer information', but also share personal experiences. The blogger would then proceed to share her experiences online through a blog or discussion forums. The shared information would gain the trust of the readers who think of it as useful, current, and affective. Thus, the blogger would eventually become a cognitive authority and this information resource would become a useful blog (**Figure 5**). It is worth noting that the blogger should maintain an explicit privacy policy to conceal personal profiles of the patients.

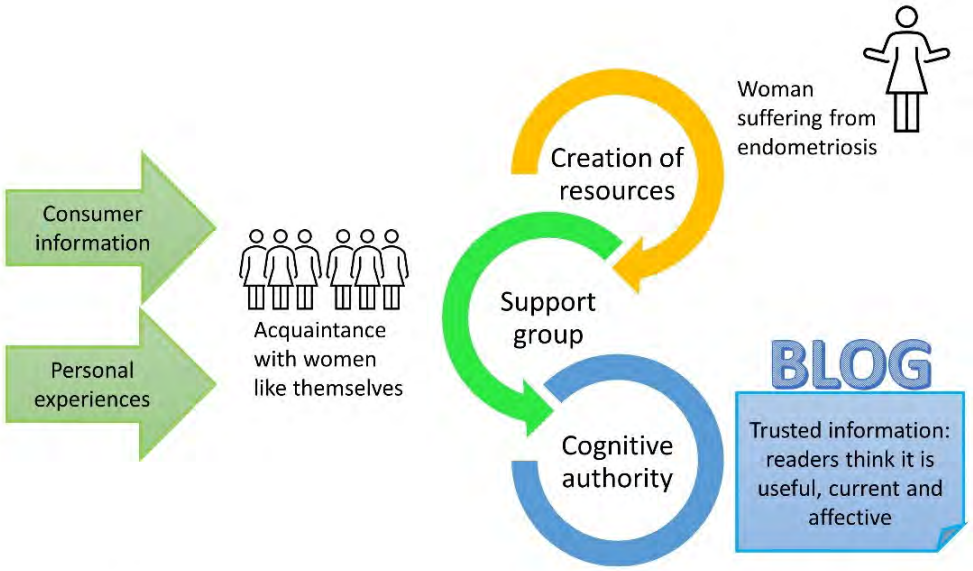

Figure 5: Developing an endometriosis blog.

Social media has also become a major player in the impact on wellbeing (18). Apart from accessing or sharing knowledge, social media has the power of sharing emotions that can be of great support to endometriosis patients if properly used. A recent study by Wilson et al in 2020 found that Malaysian women with endometriosis used social media to share information about the disease, support each other emotionally, and build friendships (19). Out of all social media platforms, Facebook is considered the most popular, and when posts were written by professionals, they were usually very informative, evidence-based, and frequently visited. One study, looking at Facebook pages related to endometriosis emotional support and education, has concluded that clinicians or healthcare workers should inform their patients of available support groups on social media as part of their treatment (20).

Discussion:

Traditionally, the doctor-patient relationship has always been limited by the doctors' availability, busy schedule and free time outside the operating room and clinic hours. Hence, patients with chronic disease, like endometriosis, who are likely to have recurrent painful attacks at different times and in different styles, may feel at the losing end in this relationship as they lack proper attention and awareness to their condition and prompt coping techniques to live comfortably despite the medical and surgical treatments they were offered.

ECAB was designed to bring these women into the limelight and make them the center of attention of the physician. It involves gynecologists' participation in addition to official patient education classes with patient group support along with social media involvement and active patient participation. As a result, the patient will be satisfied, informed, and coping well with the painful endometriosis attacks. Interestingly, this achievement does not stop here; placing women in the driver's seat and in

control of their symptoms, will prompt these women to help others and share their knowledge through support groups or blogging. The wheel of ECAB will therefore keep running indefinitely.

Moreover, it is plausible to think that this proliferation of women in control of endometriosis will cross borders and spread all over the globe as long as the internet is functioning, and language is instantly translated. A group of Saudi women with endometriosis have hooked themselves to a Chinese endometriosis support group and are currently exploring the tricks and coping techniques in a different dimension hoping that they could improve their lifestyle and combat the disease. We are hoping that with ECAB, a similar intermingle arises between communities around the world, whether African, American, European, or Asian or other population, and will help fight the disease and eliminate its suffering.

Our first pilot study has revealed a lack of support and care when treating adolescents with dysmenorrhea. This will ultimately lead to a number of misdiagnosed cases of endometriosis. A cross-sectional study conducted by Hashim et al revealed an 80% prevalence of dysmenorrhea among female medical students in Saudi Arabia (21). This number is quite close to our results, and their conclusions are in line with ours: awareness campaigns should be frequently implemented to improve the quality of life of patients with dysmenorrhea and possible endometriosis (21).

Furthermore, implementing awareness programs has been shown to decrease the diagnostic delay associated with endometriosis (22). These delays impact women and healthcare providers alike. Women who are misdiagnosed lead a low quality of life and suffer physically, psychologically, and financially. The same applies to healthcare providers who could ultimately save time and resources if they diagnosed in a timely manner.

Support groups are elemental for women with endometriosis as they provide emotional support and act as a resource of sorts. It is worthy to mention that self-care and being part of a support group is not tender loving care. This is a system that can take the management of endometriosis to a different level away from medical or surgical interventions. Social sharing of emotions is a well-studied phenomenon since its introduction by the famous social psychologist Bernard Rimé in 1991(23), who also proved later those positive emotional experiences fuel subjects' thinking (24). In fact, Rimé's continued research led him to say that "sharing positive emotions not only boosts individual's positive effect, but it also enhances their social bond" (24).

On the other hand, the issue with sharing information and emotions through blogs or on social media is that the lack of accuracy and the inadequate quality of the information could leads to an infodemic (25). The impact of the internet – social media in particular – on the wellbeing of an individual still needs guidance and monitoring, some discern that the method by which people utilize social media for their wellbeing is what could ultimately affect the outcome on their health, whether positive or negative (18).

Empowering women with endometriosis is of utmost importance. These women will no longer feel like a victim but rather victorious, as they feel more in control of their disease and turning endometriosis from a painful condition with no hope of coping to one where she is confident and in charge.

There is a lack of understanding between healthcare professionals about endometriosis, and we would therefore highly recommend that healthcare professionals, and physicians in particular receive adequate training on possible signs and symptoms of endometriosis. Additionally, endometriosis medical care should include guidance on how to help those patients socially, sexually, and psychologically.

It is true that more research on the pathogenesis, prognosis and diagnosis is much needed to help diagnose endometriosis, the key remains however in increasing the public's awareness of the disease. ECAB was constructed, through its three settings, to provide women with endometriosis with the knowledge and the confidence to cope with painful attacks skillfully.

Conclusion:

They may even save themselves from unnecessary medical or surgical interventions; not to mention the positive impact on health care expenses and reducing the burden on doctors.

The message that this bundle is trying to relay is that our society has to overcome its cultural inertia and raise awareness of this misunderstood and neglected condition.

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We would like to thank Ms. Rola El Rassi for allowing this bundle to be brought to life, without her it would have been impossible to compile this work.

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Obstetrical outcome after hysteroscopic repair of caesarean scar defect (follow up study)

Author: Hanifa Dilmi [1], Leila Dilmi [1], Abdelkader Benbakreti [1], Fairouz Laggoun [1], Soulef Kassari [1], Amina Mouilid [1], Djameleddine Dib [1].

Affiliation: [1] Independent gynecologist, Algeria.

Abstract: Isthmocoele, or cesarean scar defect, is an indentation standing for myometrial discontinuity in the anterior wall, with a base communicating to the uterine cavity at the site of the previous cesarean section scar (1). The possible symptoms of the latter are: infertility, postmenstrual abnormal uterine bleeding, dysmenorrhea, chronic pelvic pain, and dyspareunia which have an impact on the quality of life. The study at hand aims at evaluating obstetrical outcomes as well as residual myometrial thickness after hysteroscopic repair of symptomatic isthmocoele. The investigation included 27 isthmocoele patients suffering from secondary infertility regardless of the other associated symptoms, such as pelvic pain or postmenstrual abnormal uterine bleeding. For all patients, the defect was diagnosed by transvaginal ultrasound and confirmed by office hysteroscopy. The goal of hysteroscopic surgery is to facilitate cyclic drainage by resecting the inferior edge and superficial cauterization of the defect (2-3-4-5-6). Among the 27 patients, 24 had at term deliveries with complications during pregnancy and delivery, such as threatening early abortion, preterm labor, uterine dehiscence and increase in volume of the scar. In infertile women with residual myometrial thickness superior of 2.5 mm, hysteroscopic repair is found to be an efficient management to ensure at term pregnancies and safe deliveries (7) even if the residual myometrial thickness did not increase after surgery.

Key words: Isthmocoele, Fertility outcome, Hysteroscopic Repair, Pregnancy Complications, Pregnancy Outcomes.

Corresponding author: Hanifa Dilmi
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Introduction:

Cesarean Section (CS) is one of the most performed surgeries in the world. Recently, the number of Cesarean deliveries has hugely increased due to various socio-cultural factors (8). The prevalence of isthmocoele is still unknown. However according to the most recent available data, the Cesarean Scar Defect (CSD) rate ranges from 6 to 27.2% after one CS and reaches 100% after at least three CS (9- 10-11). Isthmocoele was first described by Poidevin in 1961 as a, "wedge shaped defect in the uterine niche" (12). The latter mentioned is also referred to as cesarean scar defect or pouch. Isthmocoele is characterized by an indentation of more than 2.5 mm standing for myometrial discontinuity in the anterior wall, with a base communicating to the uterine cavity at the site of the CS scar (13). To make the diagnosis, sonohysterography and hysteroscopy are the gold standard (14-15). As far as the physiopathology of an isthmocoele is concerned, there is no exact underlying mechanism to explain the occurrence of such a disease. For the sake of simplicity, one main factor could be identified as contributing to the manifestation of the CSD; inadequate healing of the CS scar. Various risk factors are associated with an isthmocoele. These comprise more than one CS, a retroflexed uterus, pre-eclampsia, maternal age less than 30 years, a duration of labor for more than five hours, cervical dilation of more than 5 cm at the time of delivery, a lower station at delivery, an incision in the cervical area, the use of oxytocin, the exclusion of the endometrial layer during the repair, one-layer closure of the myometrium, the use of slow absorbable sutures, and a more ischemic closure (16-17-18-19).

Generally speaking, most of isthmocoeles are asymptomatic. However, some symptoms might arise from CSD. These include prolonged menstruation, postmenstrual spotting, continuous brownish discharge, chronic pelvic pain, dysmenorrhea, and secondary infertility. Some obstetrical complications have been mentioned such as ectopic pregnancy in the CSD and uterine rupture in future pregnancies (20-21). The resection of the inflamed tissue at the site of CSD can be performed either by operative hysteroscopy, laparoscopy, or vaginal surgery (22-23-24-25-26). Two different surgical approaches are used currently to treat CSD namely the hysteroscopic approach and/or the laparoscopic one. The choice of the specific approach is highly dependent on the residual myometrial thickness (RMT) (27-28-29-30-31).

Among the patients who have been treated for CSD, some will experience a normal pregnancy. The present study has focused on the patients' pregnancy course after being subject to the treatment of a CSD. In the literature, many studies reported the resolution of symptoms and infertility outcomes after hysteroscopic repair. One of the most

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relevant papers is that of Gubbini and al in 2011. Gubbini reported in a series of 41 patients, 100% pregnancy and 90.24% of live birth rate. Tsuji and al in 2020 obtained in a series of 38 patients, a pregnancy rate of 71% and 85.18% of live birth rate (7-10).

Material Method:

This retrospective study was conducted at a private clinic in Oran, Algeria from January 2019 through February 2021. 27 patients with secondary infertility due to CSD whether associated or not with abnormal uterine bleeding and/or chronic pelvic pain with a residual myometrium thickness superior than 2.5 mm at transvaginal ultrasound (TVS) were included.

Patients with a residual myometrium thickness less than 2.5 mm, secondary infertility due to factors other than an isthmocoele were excluded, also excluded were patients lost in follow up. The diagnosis of isthmocoele was established using TVS and confirmed by office hysteroscopy using a 2.9 mm rigid telescope 30° fore oblique final lens (Karl Storz SE & Co KG, Tuttlingen Germany) between day 7 and day 12 of the cycle.

Operative hysteroscopy was performed by the same surgeon, in most of cases, under general anesthesia using a 26 French bipolar resectoscope with a 12° fore oblique lens (Karl Storz SE & Co KG Tuttlingen, Germany). The uterine cavity was distended using a saline solution; an automatic pump (Karl Storz Se & Co KG Tuttlingen, Germany) was used in order to obtain a pressure of 110 mm Hg. The surgical technique consisted in the resection of fibrotic tissues at the inferior edge of the defect using a cutting loop and pure cutting current of 50 - 100 watts. The bottom of the pouch was treated by superficial coagulation with a roller ball electrode. No intraoperative complications have been noted.

Statistical analysis was performed using SPSS software (version 22, IBM Co, Armonk, NY, USA). Statistical significance was set at P<0, 05.

Results:

All the patients included presented secondary infertility with or without abnormal uterine bleeding and/or chronic pelvic pain (Figure 1).

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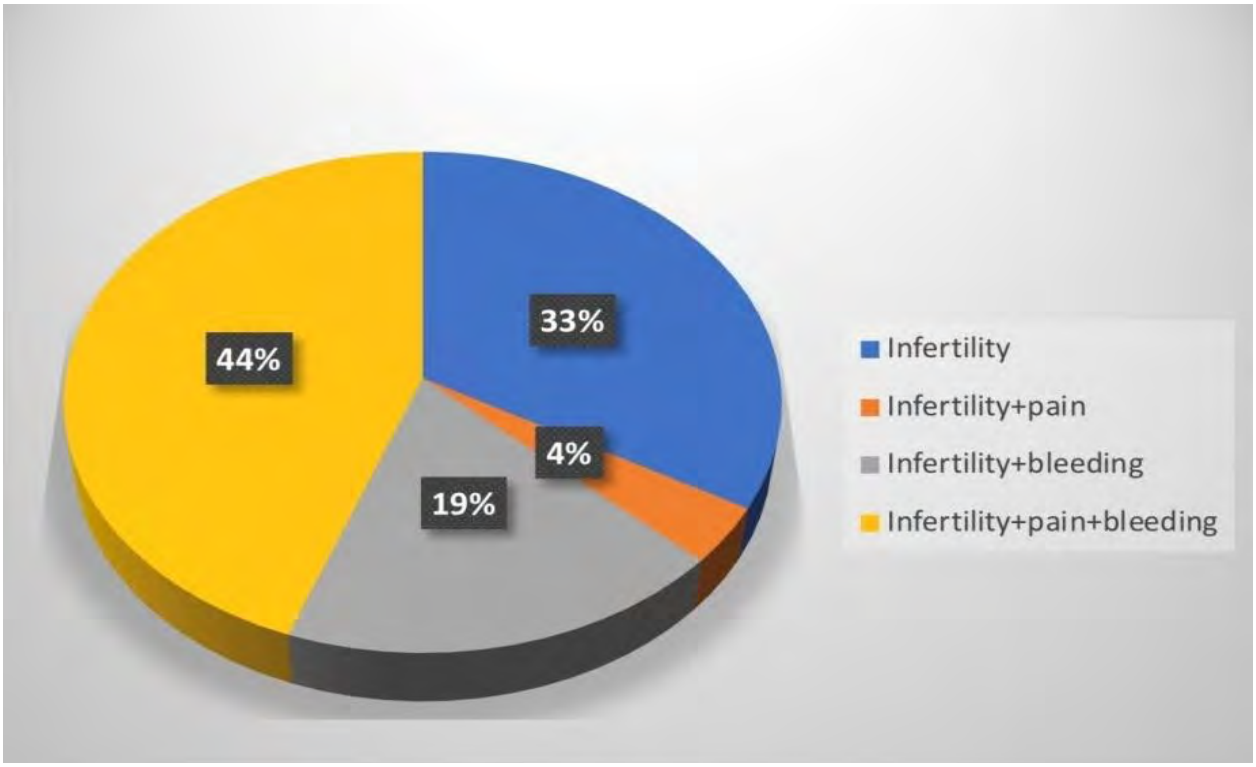

Figure 1: Causes of Isthmocoele diagnosis.

Baseline anamnesis included: age, gravidity, parity, previous CS, comorbidity factors, and position of uterus (Table 1). The mean of age was 29.25 ±6.31 years. Related to number of previous CS all women had at least one previous CS (7.4%), 9 women (33.3%) had 2 CS, 9 women (33.3%) had 3 CS and 7 women (25.9%) had 4 previous CS. As for the comorbidities, 11 patients had various chronic pathologies such as hypertension, diabetes, hypothyroidism, endometriosis, and the presence of myoma. Regarding the uterine position, 92.5% of patients presented with a retroflected uterus and 7.4% with an anteverted uterus respectively. The (RMT) was measured by transvaginal ultrasound before surgery in all patients and only 17 had measurements 3 months after surgery (it was not possible to perform the measurements in 10 patients).The RMT significantly increased from 3.45 ± 0.55 mm (range,2.9-4.0) to 4.15 ± 1.15 mm (range,3.0-5.3) after operative hysteroscopy (P< 0.001), whereas it decreased in 2 cases (-0.1 mm).

All patients conceived between 3 and 17 months during the follow-up, 22 spontaneously and five after IVF. While 18 patients became pregnant within one year and 9 during five months after treatment. Two pregnancies were interrupted due to early miscarriages and another one resulted in an intrauterine fetal death at 30 weeks of gestation due to chronic hypertension. 24 pregnancies were carried to full term. In three of the patients, cervical

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Table 1: CHARACTERISTICS OF PATIENTS (n=27)	
Age	
21-41 years	
Gravidity	3-11
Parity	1-8
No of previous cesarean sections	1-4
Sec. infertility	9
Sec. infertility+PAUB	6
Sec. infertility+Chronic pelvic pain	1
Sec. infertility+PAUB+Chronic pelvic pain	11
Uterine position:	
Retroflexed	12
Retroverted	5
Retroflexed Retroverted	8
Anteverted	2
Comorbidity factors:	
Hypertension	4
Hypothyroidism	2
Diabetes	2
Endometriosis	2
Myoma	3

Table 1 : Characteristics of patients (n=27)

cerclage for incompetent cervix was performed. Three patients experienced threatened early abortions, five patients threatened preterm labors, and two patients experienced hypertensive disease. All deliveries were scheduled as CS: three delivered between 36-37 gestational weeks (GW), eight delivered between 37-38 GW, eleven delivered between 38-39 GW and two delivered between 39-40 GW. All babies were born healthy and the mean birth weight was 3725 ± 875g. During CS, three patients presented with scar dehiscence and two patients with a scar increasing.

Discussion:

In the series at hand the patients were followed up for 26 months after surgery, the procedure was successful in all cases without complication. All participants became pregnant between 3 and 17 months. 24 of them had at term deliveries with complications during pregnancy and delivery such as threatening early abortion, preterm labor, uterine dehiscence and scar increase (88, 8% of live birth).

18 women (66.6%) conceived during the first year of follow-up. The patients who conceived after 12 months, were either older than 30 years (32) or had less gain of RMT. Two patients did lose 0,1mm of RMT. Except the cases of pregnancy terminations, the problems occurring during their pregnancies were not severe: threatened abortion and threatening preterm labor have been managed medically. The sub-group of patients with more than two CS associated to Postmenstrual Abnormal Uterine Bleeding (PAUB) presented with more complications during pregnancy (57%) and delivery (80%) (Figure 2).

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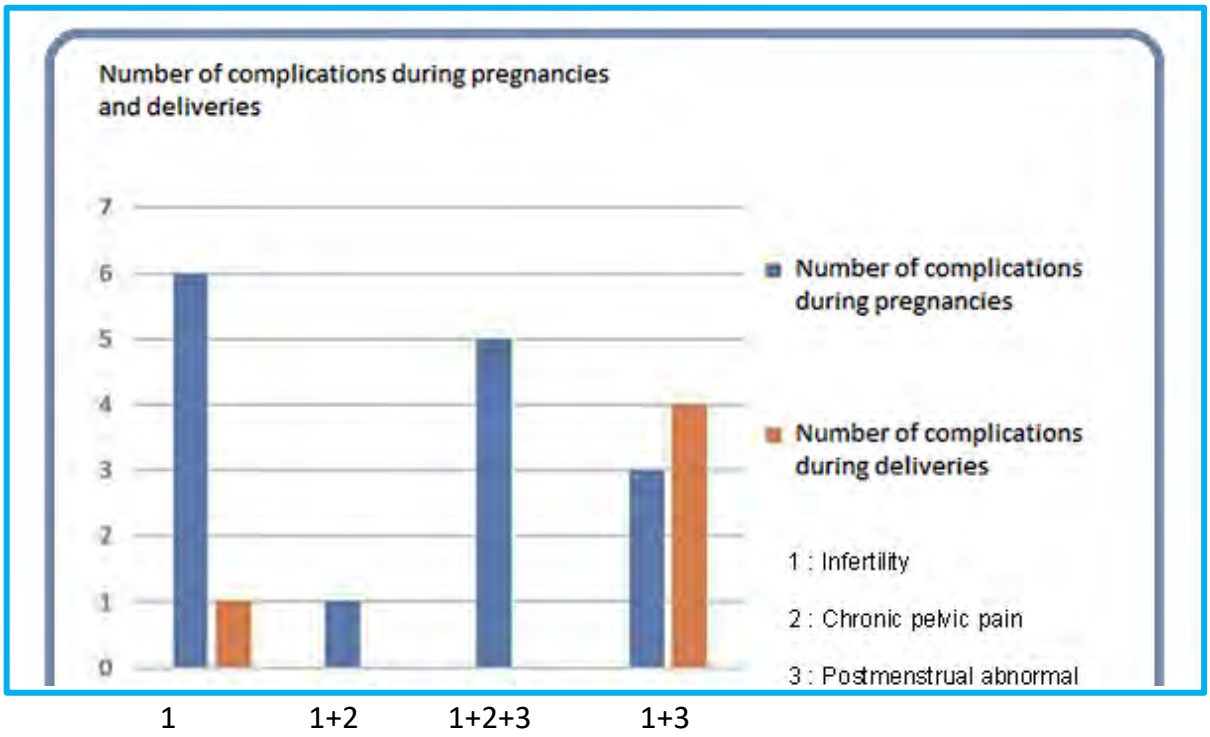

Figure 2: Number of complications during pregnancy and delivery according to symptoms.

The scar dehiscence's were associated with endometriosis in two cases, with fetal macrosomia in one and hypothyroidism for the second one, despite a gain of 1.9 mm RMT. The explanation for this gain of RMT could be attributed to fibrotic tissue (33-34). The enlargements of the scar were associated to fetal macrosomia in two cases and hypertension in another one. Other complications such as placenta accreta, placenta praevia, ectopic pregnancy in CSD or uterine rupture were not present during our follow up as has been reported in some other studies (35). With regards to the number of previous CS, the observation made in this study is that patients who had two CS gain more in RMT than those who had more of two cesarean sections, 1.1± 0.8mm vs. 0.5±0.4mm respectively (Figure 3).

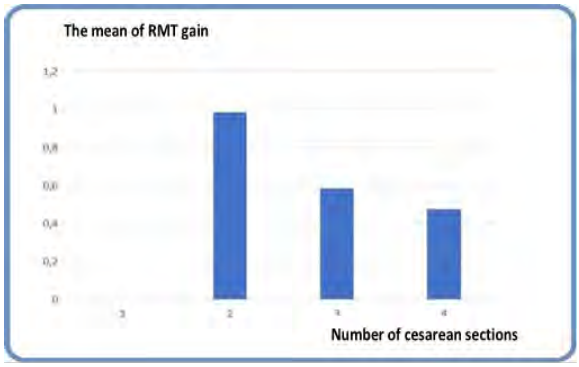

Figure 3: The mean of RMT gain according to the number of Cesarean Sections.

There was a statistically significant relation between the gain of RMT and

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position of the uterus. The less gain was observed in retroverted retroflexed uteri and the highest one in retroflected uteri (Figure 4).

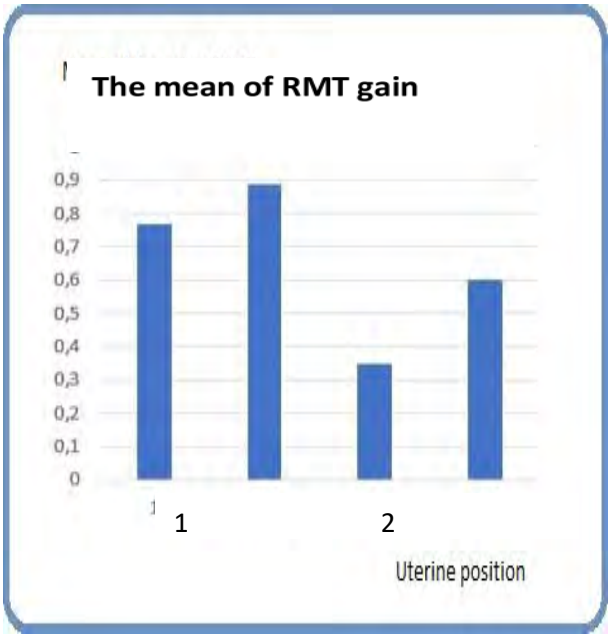

Figure 4: The mean of RMT gain according to uterine position 1 Anteverted 2 Retroverted

It is important to note that there was no correlation between improving infertility and anatomic results after surgical correction of the defect. Several studies published previously reported that the Isthmocoele produces a toxic environment due to chronic endometritis and modification of microbiotope, obstructing the passage of sperms and preventing embryo implantation (5, 8, 17). Therefore, the removal of such tissue by hysteroscopy might contribute to improve the environment in the uterine cavity and pregnancy outcomes without improving RMT (5, 23, 26). For researchers the RMT is the most useful measurement in the evaluation of Isthmocoele before and after surgery. In our series, 11 patients out of 27 became pregnant despite a low gain of RMT (0.1-0.9
mm). Moreover, two patients out of 27 became pregnant later in spite of 0.1mm loss.

These findings lead to speculate that the hysteroscopic treatment of the inflammation associated to an Isthmocoele and the resection of its edges, allowing for cyclic drainage of blood, is more determinant for improving fertility than increasing myometrium thickness.

Therefore, a sub-group of patients could be identified at high risk for obstetrical complications after hysteroscopic correction in relation with their history of abnormal uterine bleeding, endometriosis, retroverted and retroflexed uterus, number of cesarean sections greater than two, and last but not least factors of incomplete wound healing.

Conclusion:

The present study suggests that hysteroscopic resection is an effective and safe method not only to improve fertility but also to ensure at term pregnancies as well as safe deliveries. The Isthmocoele, even deep, is not a contraindication for a future pregnancy provided that efficient management is applied.

The limits of this study are its retrospective design, small number of patients and missing data, especially in measurements of the RMT. That's why a prospective study should be performed with a large sample size to confirm these findings.

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Addendum:

Table 2 : Detailed gynaecological and obstetrical outcomes after hysteroscopic repair of Isthmocoele :

AGE (y)	NUMBER OF CESAREAN SECTION	COMORBIDITIES	SYMPTOMS	UTERINE POSITION	Interval Hysteroscopic Repair to Pregnancy (months)	GAIN OF RMT (mm)	COMPLICATIONS DURING PREGNANCY	Complications during Delivery	TERM OF DELIVERY (Gest.Weeks)	NEONATAL BIRTH WEIGHT (g)
21	1		infertility	retroflexed	6		threatened early abortion threatened preterm labor		36-37	3300
21	2		infertility+pain+paub	retroverted	10	1.4			38-39	3400
21	2		infertility	reverted retroflexed	12	0.7			39-40	3400
23	3		infertility	reverted retroflexed	3		threatened preterm labor		37-38	2850
23	4		infertility+pain+paub	reverted retroflexed	15	- 0.1	threatened preterm labor		37-38	3100
23	4		infertility+pain+paub	retroflexed	9		threatened early abortion		38-39	3800
24	2	hypothyroidism	infertility	retroflexed	9	1.3			37-38	3300
24	1		infertility	anteverted	12		threatened preterm labor		36-37	3200
25	4		infertility+pain+paub	retroflexed	6	1.2			38-39	3900

26	2		infertility+pain+paub	anteverted	8	0.6			39-40	3400
26	3	myoma	infertility+pain+paub	retroflexed	6				38-39	3400
27	4	endometriosis	infertility +paub	retroverted retroflexed	13			dehiscence scar	38-39	4100
27	4		infertility +paub	retroverted retroflexed	14		threatened early abortionthreatened preterm labor	scar increase	38-39	4100
28	2	myoma	infertility	retroverted	13		threatened early abortion		37-38	2900
29	2		infertility	retroverted retroflexed	15	0.3			38-39	3400
29	2	hypothyroidism endometriosis	infertility	retroflexed	12	1.9	hypertension	dehiscence scar	38-39	2900
30	3		infertility+pain+paub	retroflexed	13	0.7	threatened early abortion		37-38	2900
31	3	diabetes	infertility +pain	retroverted retroflexed	4	0.5	threatened early abortion		38-39	3000
32	3		infertility +paub	retroverted	10		threatened preterm labor	dehiscence scar	38-39	3200
32	2	Myoma chronic hypertension	infertility	retroverted retroflexed	9		death in utero		30	990
35	2		infertility+pain+paub	retroflexed	10	1.3			37-38	3800

38	4		infertility +paub	retroflexed	6	0.9	stopped pregnancy			
38	4	diabetes	infertility+pain+paub	retroflexed	16	- 0.1	hypertension		37-38	3100
38	3	chronic hypertension	infertility +paub	retroflexed	17	0.9		scar increase	37-38	4600
39	3		infertility+pain+paub	retroverted	8	0.8	stopped pregnancy			
39	3	chronic hypertension	infertility+pain+paub	retroverted	9	0.1			38-39	
41	3	chronic hypertension	infertility +paub	retroflexed	16	0.5			36-37	

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vNOTES hysterectomy technique in a case with big broad ligament fibroid: Video Article

Author: [1 2] Suyash Naval

Affiliation: [1] Lifescope NOTES Centre, Naval Multi Specialty Hospital, M. J. College Road, Near Bhaskar Market, Jalgaon- 425001, Maharashtra, India

[2] Jawaharlal Nehru Medical College, Sawangi (Meghe), Wardha- 442107, Maharashtra, India

Abstract

Introduction:

The objective of this video is to demonstrate the transvaginal natural orifice transluminal endoscopic surgery (vNOTES) hysterectomy technique in a case with a big broad ligament fibroid.

Key words: vNOTES; hysterectomy; fibroid; NOTES; morcellation

Materials and methods:

A 43-year-old female with pain in the lower abdomen (VAS= 5/10) for 4 months introduced herself in our clinic. A Pelvic ultrasonography revealed a large left broad ligament fibroid (16 x 14.4 x 12.5 cm). Vaginally assisted NOTES hysterectomy with vaginal morcellation in a MorSafe® bag (Veol Medical Technologies Pvt Ltd, TTC Industrial Area, Koparkhairane, Navi Mumbai 400705, Maharashtra, India) was planned and performed. For manipulating the uterus, grasping and applying traction on large fibroid, the NAVAL NOTESYNC® device (Pee Bee India, Pantnagar, Ghatkopar (E), Mumbai 400075, India) was used during the procedure. The main outcome was a complete removal of the uterus with fibroid and bilateral fallopian tubes trans-vaginally. A step-by-step procedure video with an explanation was produced.

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Results and discussion:

The duration of the surgery was 194 minutes and blood loss was about 230 ml. The specimen, weighing 1.645 Kg, was successfully removed without intraoperative and postoperative complications. The patient was discharged on day 3.

The vNOTES approach for large uterus can provided three critical advantages over the conventional laparoscopic approach. First, the uterine vessels can be sealed very early due to the short distance to the vaginal access, probably contributing to the limited blood loss. Secondly, it is easier to approach pedicles transvaginally as the lower segment is narrower in comparison to the transversely enlarged fundus thus providing good space in the pelvis. Thirdly, it was easy to visualize the ureter and dissect the large broad ligament fibroid from the retroperitoneum. Long-length laparoscopy instruments and the gravity of the large specimen were utilized for bagging the specimen. Possibly, due to these advantages, several authors have found the feasibility of vNOTES for hysterectomy of large uteri an interesting alternative . Multicenter studies may show these benefits and ask whether this technique is also beneficial for less experienced surgeons.

Conclusions:

vNOTES is a feasible minimally invasive technique of hysterectomy for the removal of even large uteri. The endoscopic vision allows the surgeon to tackle difficulties in the dissection and the removal of a large specimen. Only surgical teams with significant experience in vNOTES should do such procedures.

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Transvaginal Natural Orifice Transluminal Endoscopic Surgery (vNOTES) salpingotomy for ectopic pregnancy: Video Article

Author: [1 2] Suyash Naval

Affiliation: [1] Lifescope NOTES Centre, Naval Multi Specialty Hospital, M. J. College Road, Near Bhaskar Market, Jalgaon- 425001, Maharashtra, India

[2] Jawaharlal Nehru Medical College, Sawangi (Meghe), Wardha- 442107, Maharashtra, India

Introduction:

The objective of this video is to demonstrate transvaginal natural orifice transluminal endoscopic surgery (vNOTES) salpingotomy for ectopic pregnancy.

Key words: vNOTES; ectopic pregnancy; vaginal surgery; NOTES; salpingotomy

Materials and methods:

A 25-year-old female patient was given a lithotomy position and general anesthesia. A posterior culdotomy of about 3.5 cm was made. After draining the blood collected in the cul de sac, a small size wound protector/retractor (Applied Medical, Rancho Santa Margarita, CA, USA) was inserted through the incision. A glove port, made using a size 7 latex glove and reusable trocars (one 10 mm and three 5 mm trocars), was then applied to the outer ring of the wound protector. CO_2 insufflation was started through one 5 mm trocar and pneumoperitoneum was achieved. Under vNOTES vision, pelvis and abdomen were inspected and the site of left tubal ectopic was identified. Five ml of diluted vasopressin solution (10 units in 100 ml) was instilled in the mesosalpinx and a linear incision was made on the tube with a monopolar hook. With the aid of hydro dissection, the ectopic was delivered and retrieved in the glove port. The incision on the tube was approximated by taking a serosal stitch with 6-0 polypropylene. After removing the vNOTES glove port, the vagina was closed with a 2-0 polyglactin suture. The main outcome was complete removal of ectopic pregnancy without conversion to laparoscopy or laparotomy. A step-by-step procedure video with an explanation was produced.

Corresponding author: Suyash Naval
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Results and discussion:

The duration of the surgery was 47 minutes. The ectopic pregnancy was successfully removed without any intraoperative and postoperative complications. The patient was discharged on the same day of surgery after 9 hours.

Since the patient had a strong desire to conserve the fallopian tube, a salpingotomy with tubal repair was done. vNOTES allowed sufficient triangulation to suture the gaping incision on the fallopian tube. To the best of our knowledge, this is the first video report of vNOTES salpingotomy with the tubal repair.

Conclusion:

Transvaginal NOTES is a less invasive and more cosmetic alternative to laparoscopy. Salpingotomy with the intracorporeal suturing repair is possible due to sufficient triangulation obtained during vNOTES. This is a feasible method that should be further validated.

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Comment of the Editor:

In many countries, the use of medical gloves as a port is prohibited. It can be considered as an option, but every surgeon should be responsible with off-label use of non-surgical aids.

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Laparoscopic nerve sparing radical hysterectomy without uterine manipulator in persistent cervical cancer after chemoradiation: Video Article

Author: [1] Evrim Erdemoglu, İlyas Turan, Volkan Öztürk

Affiliation: [1] Division of Gynecologic Oncology, Department of Obstetrics and Gynecology, Suleyman Demirel University, Isparta, Turkey

Abstract

The use of radiotherapy has a devastating effect on pelvic tissues. TGF beta and cytokines mediate significant effects of radiotherapy on tissues. Radiotherapy causes excessive collagen deposition, increased extracellular matrix, fibrosis and inflammation. The molecular effects are clinically evident. An important side effect is vascular damage and hypoxia. These may lead to nerve damage and propensity for bladder and rectum dysfunction, as well as a more complex surgery. Laparoscopic nerve-sparing surgery after chemo-radiation is rarely reported. The aim is to demonstrate the feasibility and technique of laparoscopic nerve-sparing surgery without the use of a uterine manipulator in recurrent/persistent locally advanced cervical cancer after chemo-radiation.

Key words: Laparoscopic nerve sparing radical hysterectomy, radiotherapy, recurrent cervical cancer, manipulator

Design: A step-by-step demonstration of the technique in a surgical video, including the strategy for protecting pelvic nerves and achieving complete surgical resection.

Setting: Although a considerable debate about the results of the LACC trial, claiming the overall survival is worse in laparoscopically treated early-stage cervical cancer, is popular and ongoing, there have been reports of prospective non-randomized trials of the safety of laparoscopy and robotic surgery after chemoradiation for locally advanced stage cervical cancer (1-3). However, literature about laparoscopic nerve-sparing surgery after chemo-radiation is scarce. Pelvic exenteration or radical hysterectomy is the standard treatment in selected patients with persistence/recurrence after chemo-radiation.

Not only oncological outcomes but the quality of life is also an important measure for cervical cancer

Corresponding author: Evrim Erdemoglu
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patients. Therefore, laparoscopic surgery can provide optimized visualization of pelvic nerves, structures and meticulous dissection, early ambulation, less need for analgesics and early discharge (2). Nerve-sparing technique by laparoscopy can improve outcomes of surgery and minimize pelvic dysfunction rates. Laparoscopic nerve-sparing radical hysterectomy is safe and feasible in experienced centers even after chemo-radiation which may cause severe adhesion and fibrosis.

Interventions: Three women aged 35, 59 and 52 with BMI of 22, 27 and 24 had laparoscopic nerve-sparing radical hysterectomy for persistent tumor after chemo-radiotherapy. All had a history of laparoscopic extraperitoneal lymph node dissection followed by pelvic IMRT irradiation in 25 fractions 1.8 Gray totaling 45 Gray along with cisplatin 35mg/m2 and brachytherapy HRCTV in 5 fractions 6 Gray totaling 80.9 Gray. Pelvic nerves were protected on both sides in two patients in whom 1/3 upper vagina was resected. The third patient had a persistent mass on the right lateral fornix and cervical corner therefore surgery was tailored to resect splanchnic nerves on the right side after exposing nerves with dissection and the nerves on the left side were preserved. Half of the vagina was incorporated into the specimen in this patient.

Surgical strategy is to identify: the input sympathetic and parasympathetic i, the hypogastric plexus and then the output rectal, uterovaginal and vesical plexus. The surgeon should be aware of the relation of these nerves with branches of the internal iliac vein. Figure 1. It is important to save not only the hypogastric nerve but also the hypogastric plexus and parasympathetic nerves, rectal and vesical plexus in the pelvis.

Corresponding author: Evrim Erdemoglu
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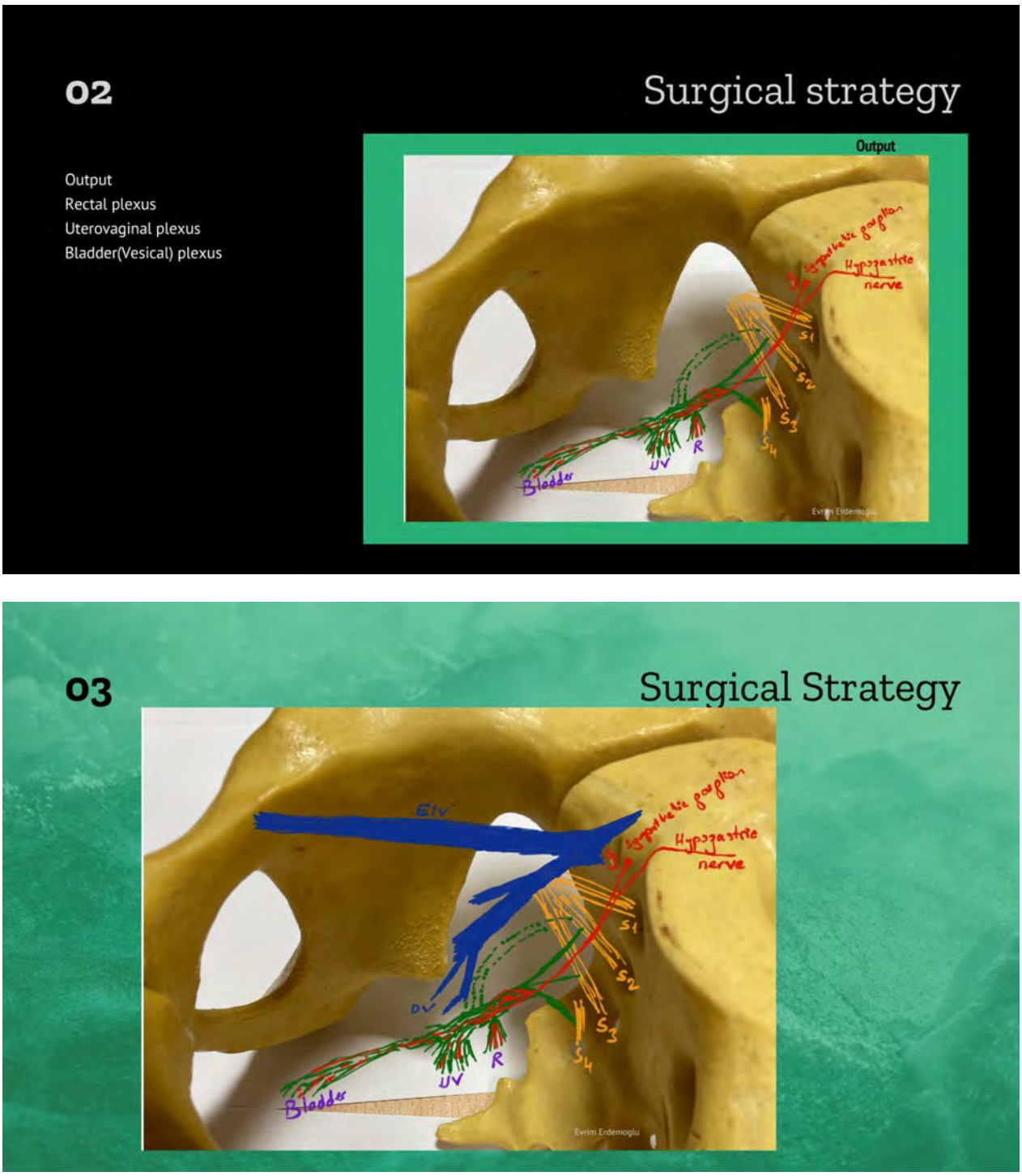

Figure 1. Pelvic splanchnic nerves. **01 Input:** to pelvic visceral nerves originates mainly from para-sympathetic S2-S4 nerves and sympathetic nerves from S1 and hypogastric nerve originating from superior hypogastric plexus at the L5 level. **02 Output**: The input nerves create inferior hypogastric plexus which is a composite of parasympathetic and sympathetic nerves and sensory nerves. The output to visceral organs

Corresponding author: Evrim Erdemoglu
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originates from the rectal, uterovaginal and vesical plexus. **03 Relation**: of the pelvic nerves to branches of the internal iliac vein (4, 5).

Technique:

One umbilical and three ancillary trocars were placed in the lower abdomen, in case of necessity a fourth trocar in the left upper quadrant was also placed. No uterine manipulator was used during the surgeries. The details are shown in the video article. After exploration of the cavity, the retroperitoneum was opened parallel to the Infundibulo pelvic ligament. Medial and lateral para-vesical and para-rectal spaces were developed towards the pelvic floor. Retro-peritoneal structures were identified; the external iliac artery/vein, the internal iliac artery/vein, the uterine artery and the deep uterine vein, the obturator nerve and the superior vesical artery. The Okabayashi space was developed. The pelvic splanchnic nerves from S2-S4, the hypogastric nerve and the branches of the deep uterine vein were dissected. Figure 2. The uterine vein, the iliac vein, the ureter, the sacrum, the middle rectal artery and the pelvic floor are the structures that help to reach the splanchnic roots.

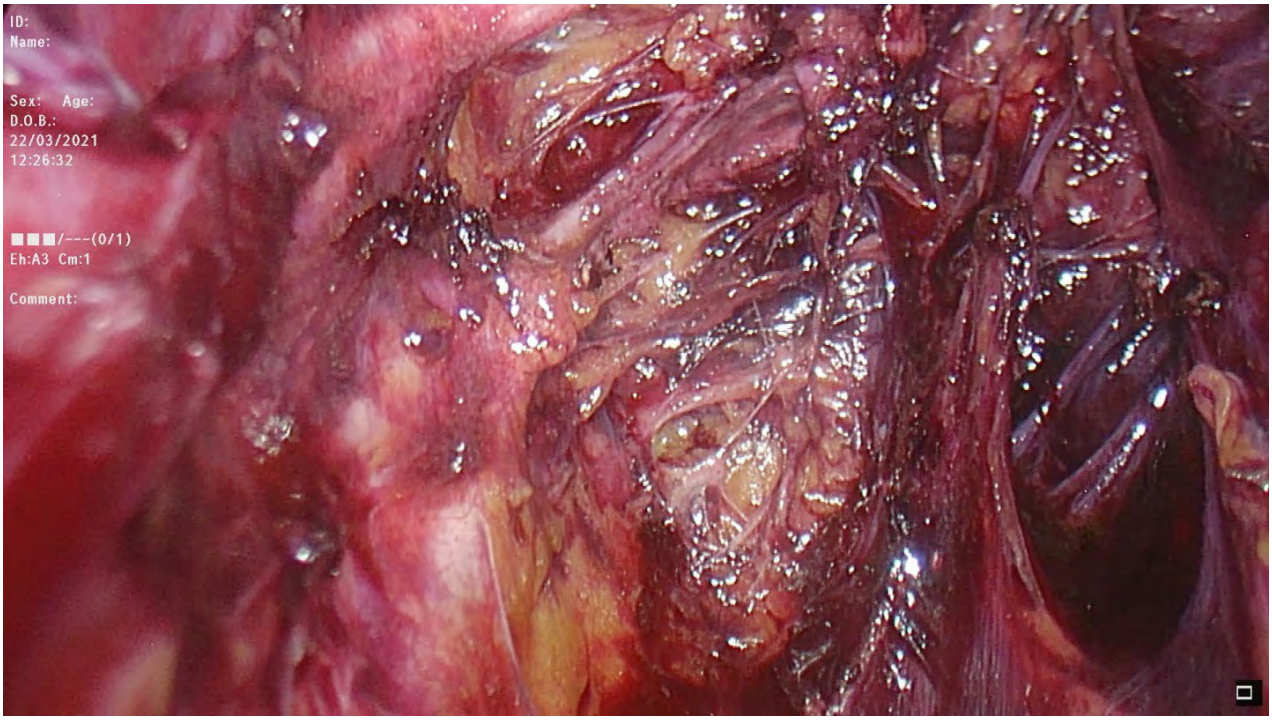

Figure 2: Laparoscopy enables magnification, optimizes dissection and tailoring of surgery as well as preservation of pelvic nerves in previously irradiated patients. Splanchnic nerves and branches emerging from the S2-S4 root are shown on the left parametrium.

Corresponding author: Evrim Erdemoglu
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The rectovaginal and vesicovaginal spaces were developed. Strategically mobilization was started from caudal to cranial and the uterine vein was first coagulated and transected. Splanchnic nerves were mobilized followed by dissection of the ureter along the tunnel and the uterine artery was preserved as long as the dissection allows. The uterosacral ligaments were transected. The ureter was mobilized first anterolaterally and then anteromedially in the tunnel. Branches of nerves running towards the bladder were identified and protected. Nerve branches running towards the cervix were transected. The bladder pillars were identified. The round ligament was transected. Deep and superficial pillars were transected lateral to the ureter. On the lateral side of the tunnel and bladder pillars, a meticulous dissection of veins running towards the bladder in the paracervical tissue was performed. The endopelvic tissues lateral to the ureter and bladder were all mobilized. Resection of the specimen was tailored under visualization of the pelvic nerves, the vessels, the ureter and the other tissues. The vaginal cuff was laparoscopically sutured in two patients and vaginally sutured in one patient.

Conclusion: Persistent/recurrent cervical carcinoma after chemo-radiation can be safely treated by laparoscopic nerve-sparing radical hysterectomy in experienced centers and the technique is feasible without a uterine manipulator. The good magnified visualization and meticulous dissection provided for during laparoscopic surgery make the approach advantageous for the protection of nerves. In addition to the general benefits of laparoscopy, this approach in previously irradiated patients may prevent the worsening quality of life.

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Corresponding author: Evrim Erdemoglu
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Corresponding author: Evrim Erdemoglu
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Opinion

Awake Hysteroscopy with Kruschinski Modular Scope (KMS)

Author: [1] Daniel Kruschinski

Affiliation: [1] Kruschinski Medical Center, Frankfurt Germany

Abstract

To avoid the need of anesthesia for diagnostic and operative Office-Hysteroscopy we have designed a system utilizing a visual entry and a simultaneous visual dilatation of the cervix that allows to perform diagnostic and operative procedures without anesthesia in the gynecological office on the awake patient. Awake-Hysteroscopy allows finally the „See & Treat "concept in the office at the gynecological chair.

Key words:

Hysteroscopy, Awake-Hysteroscopy, Visual dilatation, diagnostic hysteroscopy, Modular Scope, office-Hysteroscopy, operative hysteroscopy, resectoscope

Corresponding author: Daniel Kruschinski
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Introduction:

While a diagnostic hysteroscopy is possible without any anesthesia, operative hysteroscopy or a resectoscopic procedure requires mostly anesthesia or a paracervical block due to the dilatation of the cervix.

The Kruschinski Modular Scope (KMS) is a modular concept and allows to perform a diagnostic hysteroscopy combined with a simultaneous visual dilatation, followed by operative hysteroscopy or/and resectoscopic procedures.

Material Method:

To avoid the need of anesthesia for diagnostic and operative Office-Hysteroscopy we have designed a system utilizing a visual entry and a simultaneous visual dilatation of the cervix that allows to perform diagnostic and operative procedures without anesthesia in the gynecological office on the awake patient.

Results:

The natural diameter of the inner cervical canal is around 4,5 cm. Using a 4 mm diagnostic sheath with a 2.9 mm hysteroscope in most cases allows simple passage through the cervix.

The TONTARRA Kruschinski Modular Scope (KMS) is a 4 mm inner sheath that includes the 12° / 30° hysteroscope and an outer sheath for gradual dilatation, the Visual Dilatator, covered by the outer sheath of the 18,5 Charr Gubbini resectoscope (Figure 1a, b).

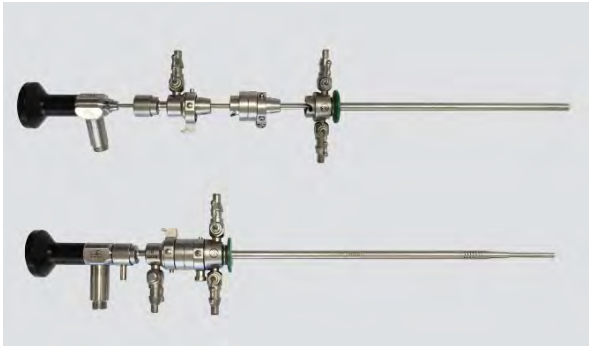

Fig 1 a and b

The outer sheath of the KMS is 3 cm shorter than the inner sheath and begins with 4 mm to perform diagnostic hysteroscopy. After that under visual control the diameter is slightly increasing to 6,5 mm introducing the outer sheath of the TONTARRA Gubbini 18,5 Charr Resectoscope (Figure 2).

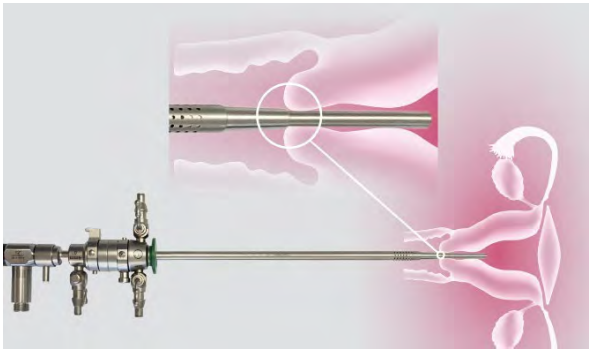

Fig 2

After performing the hysteroscopic diagnostic procedure, a simultaneous

dilatation is performed completely under vision, gradually increasing the diameter of the cervix to 6,5 mm (Figure 3)

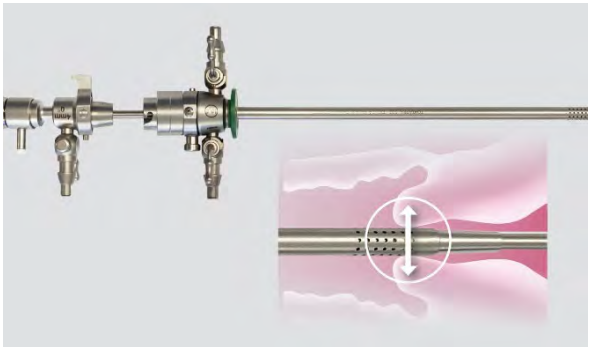

Fig 3

The outer sheath of the 18,5 Charr Gubbini resectoscope is now installed in the cervical channel and allows to switch to operative hysteroscopy or to the resectoscope to perform small hysteroscopic procedures without anesthesia or paracervical block as Awake-Hysteroscopy procedure (Figure 4).

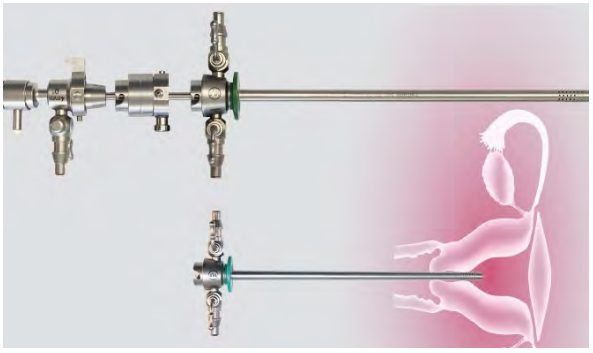

Fig 4

After the visual dilatation the outer sheath of the 18,5 Charr Gubbini resectoscope is installed in the cervical channel (Figure 5).

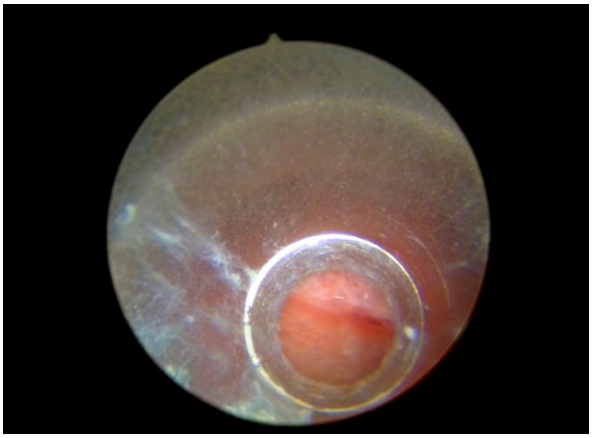

Fig 5

Now a resectoscope is inserted in the outer sheath of the 18,5 Charr Gubbini resectoscope and / or alternatively the operative hysteroscopy shaft can be inserted in the outer sheath of the 18,5 Charr Gubbini resectoscope (Figure 6).

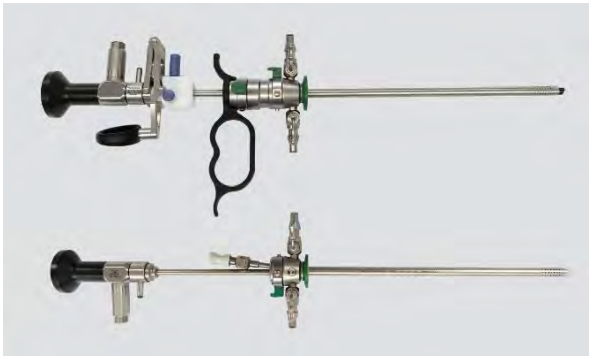

Fig 6

Discussion:

Hysteroscopy is the gold standard for diagnostic and therapeutic procedures of many uterine diseases.

Complications of hysteroscopy are rare, however around 50% of them are due to difficulty during cervical entry and mechanical dilatation. Such complications may result in cervical tears, creation of a false passage (Via falsa), perforation, bleeding and also difficulty in entering the uterine cavity with the hysteroscope (1,2,3).

While a diagnostic hysteroscopy is possible without any anesthesia, operative hysteroscopy or a resectoscopic procedure requires mostly anesthesia or a paracervical block due to the dilatation of the cervix.

Office-Hysteroscopy was designed to perform hysteroscopic procedures in the gynecological office, however most of the office-hysteroscopies are still performed under general anesthesia and in the OR and not in the office.

The Kruschinski Modular Scope (KMS) offers a simultaneous diagnostic hysteroscopy and a cervical dilatation under vision and avoids tenaculum, Hegar and blind dilatation for an atraumatic operative Hysteroscopy or Hystero-Resectoscopy.

The Kruschinski Modular Scope (KMS) can also be used in the same way under anesthesia in the operative theatre to perform a simultaneous diagnostic hysteroscopy and visual dilatation.

Conclusion:

The Kruschinski Modular Scope (KMS) by TONTARRA is a modular concept and allows to perform a diagnostic hysteroscopy combined with a simultaneous visual dilatation, followed by operative hysteroscopy and/or resectoscopic procedures.

Awake-Hysteroscopy allows finally the „See &Treat“ concept in the office at the gynecological chair.

References:

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2) Mazzon I, Sbiroli C. Miomectomia. In: Mazzon Ivan SC, editor. Manual of Resettoscopic Surgery in Gynecology. Turin, Italy: UTET; 1997. p. 191–217
3) Grimes DA. Diagnostic dilation and curettage: a reappraisal. Am J Obstet Gynecol. 1982;142(1):1–6

Editorial comment:

The author describes a by him co-developed system for office hysteroscopy. We would like to point out that there are systems from other manufacturers of comparable quality. Office-hysteroscopy is an important part of prevention and therapy, which can prevent unnecessary surgical interventions, therefore we support the spread of this surgical technique with comparable articles