TURKISH ENDOMETRIOSIS & ADENOMYOSIS SOCIETY 2009

13rd year

March Is Endometriosis Awareness Month

ENDOMETRIOSIS BULLETIN

APRIL 2022 / ISSUE XXI

www.endometriozisdernegi.org

SELECTED ARTICLES

New Treatments for endometriosis

A new diagnostic test for endometriosis: saliva testing

Risk of preterm birth in endometriosis

Special Interview

Mario Malzoni

PREFACE

Hello,

We are here with you again with our 21st issue. You can find the newest updates on endometriosis and adenomyosis along with our EndoMarch activities here in this bulletin, which is published every three months.

In this issue, you can find updates on the treatment of endometriosis, results of a promising study on the role of saliva analysis in the diagnosis of endometriosis, relationship between endometriosis/adenomyosis and migraine, applications of artificial intelligence on endometriosis and a study on the relationship between endometriosis and preterm labor.

March is endometriosis awareness month. All over the world, various events are held during this month to raise awareness on endometriosis. With the joint effort of The Turkish Endometriosis and Adenomyosis Society's Board Members and Junior Group, we organized various scientific and social events to raise awareness among our patients and the Turkish population. Details regarding our events can be found in this issue. We are proud to be closely followed and appreciated by The Worldwide Endomarch Group.

Since endometriosis is a chronic disease, various studies are carried out all around the world in order to find solutions to ease the daily lives of endometriosis patients. We, as The Turkish Society, wanted to draw attention to the importance of this issue by publishing a public announcement at the beginning of March in order to get endometriosis accepted among the category of chronic diseases in Turkey. We hope that the lives of our endometriosis patients can be made a little easier by taking the necessary steps regarding this issue in near future.

The European Society of Human Reproduction and Embryology updated its endometriosis guideline in 2022 with the contribution of expert scientists. Our association's founding president, Prof. Engin Oral, MD and our treasurer, Assoc. Prof. Pinar Yalcin Bahat, MD, contributed to the medical treatment of endometriosis associated pain section of this guideline You can visit https://www.eshre.eu/Guidelines-and-Legal/Guidelines/Endometriosis-guideline.aspx to access the guideline and patient leaflet.

34th and 35th live webinar and Instagram series on endometriosis were held with the participation of **Koray Elter, Funda Gode, Seher Sari Kayalarli, Fitnat Topbas Selcuki.**

During this period, January, February and March, the webinar series organized by the European Endometriosis League continued with the valuable presentations of **Eliana Montanari, Laurin Burla** and **Sun-Wei Guo.**

On 20-21 January 2022 in Dubai, our president **Taner Usta** and our board members **Engin Oral** and **Ahmet Kale** contributed to the 7th EMEL Conference on Endometriosis and Uterine Disorders as speakers and with a live endometriosis surgery broadcast from Istanbul.

Our new webinar series, **Experts Discuss Endo-Adeno with Real Cases,** moderated by **Engin Oral** will be held on April 5th with the participation of **Yucel Karaman, Umit Inceboz, Bulent Berker, Yusuf Aytac Tohma.**

Among the upcoming meetings of our society, 3rd **International Endometriosis School Istanbul** will be chaired by **Engin Oral, Taner Usta** and **Ertan Saridogan**, on **May 27-28**, with the participation of many experts in the field of endometriosis from Turkey and abroad. In addition to the theoretical training, the participants will be given hands-on laparoscopic surgery training in the animal laboratory. We will hold the 14th of our EndoAcademy meetings in Adana in June. The meeting, which will be chaired by **Turan Cetin** and **Cihan Kaya**, will cover the diagnosis of endometriomas, its medical and surgical treatment, its relationship with infertility and pelvic pain.

Endo-Specialist interview guest of this month's issue was **Mario Malzoni** from Italy. **Ezgi Darici,** one of the Junior Group members, conducted this valuable interview with him.

We hope to be together again with developments from the world of endometriosis and adenomyosis in our next issue.

Best Regards,
Prof. Taner Usta, MD
President of the Endometriosis & Adenomyosis Society

Turkish Endometriosis & Adenomyosis Society Board of Directors 2019-2022

Turkish Endometriosis and Adenomyosis Society's Founding President
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(Board Member)
Assoc. Prof. Hale Göksever Çelik, MD

(Board Member)
Assoc. Prof. Cihan Kaya, MD

Endometriosis e-bulletin is prepared by Turkish Endometriosis & Adenomyosis Society. If there are any topics that you would like us to include in the bulletin or any questions you would like to ask, you can contact us via e-mail at drcihankaya@gmail.com.

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PUBLIC ANNOUNCEMENT ON WHY ENDOMETRIOSIS SHOULD BE CONSIDERED AMONG THE CHRONIC DISEASES

TURKISH ENDOMETRIOSIS & ADENOMYOSIS SOCIETY 2009

13th year 2009-2022

Announcement about the acceptance of endometriosis (chocolate cyst) as a chronic disease:

Chocolate cyst disease (**endometriosis**) is a chronic, estrogen dependent, progressive disease defined as the presence of cells belonging to the inner lining of the **uterus, outside of it. The disease commonly affects ovaries, tubes, ligaments fixating the uterus, and rarely intestines, bladder, urethra, nerves, and old surgical incisions.**

Although it can be seen at any age, in our country, approximately **2 million of 20 million** women of reproductive age are at risk for this disease. The diagnosis of the disease takes an **average of 7 years**, even in developed countries. It can cause pain often **during menstruation, sexual intercourse, defecation and urination, also may lead to infertility.** These symptoms of the disease affect women's quality of life, their place in the work force, and success of schoolgirls negatively. Since it is a **progressive disease**, it may lead to **loss of organs** such as ovaries, uterus, intestines, bladder and kidneys, and may also **affect pregnancy and fertility**. The disease's need for **continuous treatment, its chronic course, its recurrence despite treatment, although it may seem like a benign disease, its spread to the surrounding organs, the risk of cancer development, the need for more than one surgery in some patients and the chronic pain causes loss of work force and deterioration in quality of life.** It isolates women from social life, especially at the age when they should be productive for the society, disrupts wellbeing of the family. Thus, it creates a **great social-economic loss** for our country.

The above-mentioned features of the disease reveal the necessity of evaluating endometriosis in the category of diseases such as **diabetes, asthma, COPD, hypertension and even cancer.**
If we consider the importance of women in family and business life in Turkey, we, as the Society of **Endometriosis and Adenomyosis**, request on behalf of the public that this disease, which is **common and causes organ loss** due to neglect, be included in the category of diseases requiring chronic care and health authorities to support studies on endometriosis.

Society of Endometriosis and Adenomyosis

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A SELECTED ARTICLES

1 New Therapeutics in Endometriosis: A Review of Hormonal, Non-Hormonal, and Non-Coding RNA Treatments

Brichant G, Laraki I, Henry L, Munaut C, Nisolle M. Int J Mol Sci. 2021;22(19):10498.

Abstract

Endometriosis is defined as endometrial-like tissue outside the uterine cavity. It is a chronic inflammatory estrogen-dependent disease causing pain and infertility in about 10% of women of reproductive age. Treatment nowadays consists of medical and surgical therapies. Medical treatments are based on painkillers and hormonal treatments. To date, none of the medical treatments have been able to cure the disease and symptoms recur as soon as the medication is stopped. The development of new biomedical targets, aiming at the cellular and molecular mechanisms responsible for endometriosis, is needed. This article summarizes the most recent medications under investigation in endometriosis treatment with an emphasis on non-coding RNAs that are emerging as key players in several human diseases, including cancer and endometriosis.

Keywords: endometriosis, non-coding RNA, cell migration, cell proliferation, apoptosis, fibrosis, angiogenesis, stem cells, inflammation

2 Machine learning algorithms as new screening approach for patients with endometriosis

Bendifallah S, Puchar A, Suisse S, et al. Sci Rep. 2022;12(1):639.

Abstract

Endometriosis-a systemic and chronic condition occurring in women of childbearing age-is a highly enigmatic disease with unresolved questions. While multiple biomarkers, genomic analysis, questionnaires, and imaging techniques have been advocated as screening and triage tests for endometriosis to replace diagnostic laparoscopy, none have been implemented routinely in clinical practice. We investigated the use of machine learning algorithms (MLA) in the diagnosis and screening of endometriosis based on 16 key clinical and patient-based symptom features. The sensitivity, specificity, F1-score and AUCs of the MLA to diagnose endometriosis in the training and validation sets varied from 0.82 to 1, 0-0.8, 0-0.88, 0.5-0.89, and from 0.91 to 0.95, 0.66-0.92, 0.77-0.92, respectively. Our data suggest that MLA could be a promising screening test for general practitioners, gynecologists, and other front-line health care providers. Introducing MLA in this setting represents a paradigm change in clinical practice as it could replace diagnostic laparoscopy. Furthermore, this patient-based screening tool empowers patients with endometriosis to self-identify potential symptoms and initiate dialogue with physicians about diagnosis and treatment, and hence contribute to shared decision making.

3 Mapping of endometriosis in patients with unilateral endometrioma

Araujo RSDC, Maia SB, Lúcio JD, Lima MD, Ribeiro HSAA, Ribeiro PAAG. Medicine (Baltimore). 2021;100(33):e26979.

Abstract

To map the distribution of the sites most affected by endometriosis in patients with unilateral ovarian endometriomas. A descriptive case series of 84 patients with unilateral endometriomas undergoing laparoscopy for the treatment of endometriosis. To evaluate the distribution of the sites of endometriosis lesions, the peritoneal compartments were divided into 5 zones: zone 1/the anterior compartment, including the anterior uterine serosa, vesicouterine fold, round ligament, and bladder; zone 2/the lateral compartment, including the left and right ovary, ovarian fossa, tubes, mesosalpinx, uterosacral ligaments, parametrium, and the ureter; zone 3/the posterior compartment, including posterior uterine serosa, the pouch of Douglas, posterior vaginal fornix, and bowel; zone 4 consisting of the abdominal wall; and zone 5 consisting of the diaphragm.Of the 5 zones evaluated, the lateral compartment (zone 2) was the most affected, with 60.7% of the patients having dense adhesions around the left ovarian fossa and 57.1% around the right ovarian fossa. The ovarian endometriomas were more commonly found

on the left side (54.8%) compared to the right (45.2%). In the posterior compartment (zone 3), the posterior cul-de-sac was obliterated in 51.2% of the patients. In the anterior compartment (zone 1), there were lesions in the vesicouterine fold in 30.9% of the patients and in the bladder in 19%. Lesions were found in the abdominal wall (zone 4) and diaphragm (zone 5) in 21.4% and 10.7% of patients, respectively.Unilateral endometriomas are important markers of the severity of endometriosis.

4 Salivary MicroRNA Signature for Diagnosis of Endometriosis

Bendifallah S, Suisse S, Puchar A, et al. J Clin Med. 2022;11(3):612.

Abstract

Background: Endometriosis diagnosis constitutes a considerable economic burden for the healthcare system with diagnostic tools often inconclusive with insufficient accuracy. We sought to analyze the human miRNAome to define a saliva-based diagnostic miRNA signature for endometriosis.

Methods: We performed a prospective ENDO-miRNA study involving 200 saliva samples obtained from 200 women with chronic pelvic pain suggestive of endometriosis collected between January and June 2021. The study consisted of two parts: (i) identification of a biomarker based on genome-wide miRNA expression profiling by small RNA sequencing using next-generation sequencing (NGS) and (ii) development of a saliva-based miRNA diagnostic signature according to expression and accuracy profiling using a Random Forest algorithm.

Results: Among the 200 patients, 76.5% (n = 153) were diagnosed with endometriosis and 23.5% (n = 47) without (controls). Small RNA-seq of 200 saliva samples yielded ~4642 M raw sequencing reads (from ~13.7 M to ~39.3 M reads/sample). Quantification of the filtered reads and identification of known miRNAs yielded ~190 M sequences that were mapped to 2561 known miRNAs. Of the 2561 known miRNAs, the feature selection with Random

Forest algorithm generated after internally cross validation a saliva signature of endometriosis composed of 109 miRNAs. The respective sensitivity, specificity, and AUC for the diagnostic miRNA signature were 96.7%, 100%, and 98.3%.

Conclusions: The ENDO-miRNA study is the first prospective study to report a saliva-based diagnostic miRNA signature for endometriosis. This could contribute to improving early diagnosis by means of a non-invasive tool easily available in any healthcare system.

Keywords: diagnostic; endometriosis; miRNA; saliva; signature.

5 Migraine Is More Prevalent in Advanced-Stage Endometriosis, Especially When Co- Occurring with Adenomyosis

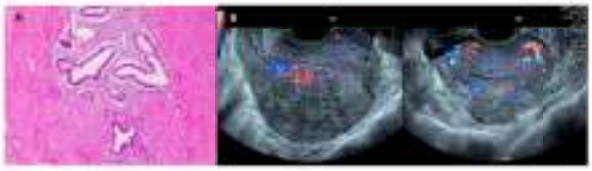
Wu Y, Wang H, Chen S, et al. Front Endocrinol (Lausanne). 2022;12:814474.

Abstract

Background: Emerging data suggest a significant association between migraine and endometriosis, however the relationship between migraine and endometriosis severity or adenomyosis is unclear. Our objectives were to explore the relationship between migraine and endometriosis, according to the endometriosis severity and co-exist with adenomyosis or not.

Methods: This case-control study of 167 endometriosis patients verified by surgery and 190 patients for other benign gynecological conditions (control subjects) was performed from September 2017 and January 2021. There is 49 adenomyosis detected by transvaginal ultrasound or histologic diagnosis among the endometriosis patients. Besides, we also included 41 adenomyosis but without endometriosis patients as a subgroup. All women completed a self-administered headache questionnaire and diagnosed as migraine according to the International Headache Society classification. The severity and stage of endometriosis was evaluated with revised American Society of Reproductive Medicine (rASRM) score. We used logistic regression to estimate the association between the presence of migraine and endometriosis severity while accounting for important confounders, including age, body mass index (BMI) and family history of migraine. We also estimate the risk of adenomyosis alone and adenomyosis with co-occurring endometriosis in migrainous women.

Results: Migraine was significantly more prevalent in endometriosis patients compared with controls (29.9% vs. 12.1%, p<0.05), but the prevalence was similar between isolated



adenomyosis patients and controls (9.8% vs.12.1%, p>0.05). For all endometriosis and control participants, migraineurs were 4.6-times (OR=4.6; 95% CI 2.7-8.1) more likely to have severe endometriosis. However, the strength of the association decreased when the analysis examined in moderate stage (OR=3.6, 95% CI 2.1-6.2). The risk of mild and minimal endometriosis was not significant (OR=1.9, 95%CI 0.9-4.0; OR=1.6, 95% CI 0.8-3.4; respectively). When we divided the endometriosis patients according to whether co-occurring with adenomyosis. We found in migrainous women, the risk of endometriosis co-exist with adenomyosis increased, with nearly fivefold greater odds compared with control (OR=5.4;95% CI 3.0-9.5), and nearly two times higher than the risk of endometriosis without co-exist adenomyosis patients (OR=2.2; 95% CI 1.2-3.8).

Conclusion: Our study supports the strong association between migraine and endometriosis. We found migrainous women suffer more frequently from sever endometriosis, especially endometriosis with co-occurring adenomyosis. It is advisable to heighten suspicion for patients who presenting with either these conditions in order to optimize therapy.

Keywords: adenomyosis; endometriosis (EM); endometriosis severity; migraine; rASRM score.

6 Endometriosis and preterm birth: A Danish cohort study

Breintoft K, Arendt LH, Uldbjerg N, Glavind MT, Forman A, Henriksen TB. Acta Obstet Gynecol Scand. 2022;00:1–7.

Abstract

Introduction: Emerging evidence shows that women with endometriosis face a higher risk of preterm birth. However, the pathways are unclear. The objective of this study is to further investigate at different gestational ages the association between endometriosis and different pathways of preterm birth including, medically indicated preterm birth, premature pre-labor rupture of membranes (PPROM), and spontaneous labor contractions.

Material and methods: In this population-based cohort study we linked singleton pregnancies from the Aarhus Birth Cohort to the Danish National Patient Registry, the Danish Medical Birth Registry, the Danish National Pathology Registry and Data Bank, and the Danish in vitro fertilization registry to gather information on endometriosis status, outcomes and maternal characteristics. We investigated preterm birth before 37 completed weeks of gestation and very preterm birth before 32 completed weeks of gestation. We explored different pathways including medically indicated preterm birth defined as induction of labor with intact

membranes and no prior labor contractions, PPROM defined as rupture of membranes, and spontaneous labor contractions defined as contractions with intact membranes resulting in labor.

Results: We found that women with endometriosis had an increased risk of preterm birth before 37 gestational weeks overall (adjusted hazard rate [aHR] 1.6, 95% confidence interval [CI] 1.3-1.9) and very preterm birth before 32 gestational weeks (aHR 1.8, 95% CI 1.1-2.9) compared with women without

endometriosis. Medically indicated preterm birth was more prominent in women with endometriosis in deliveries before 37 gestational weeks (aHR 2.4, 95% CI 1.8-3.2) whereas spontaneous labor contractions were more common before 32 gestational weeks (aHR 2.2, 95% CI 1.1-4.5) in women with endometriosis compared with women without endometriosis. Further, in the analyses restricted to women with a histologically verified diagnosis of endometriosis, the results were strengthened overall and showed that women with endometriosis had an increased risk of PPROM before 32 gestational weeks (aHR 3.49, 95% CI1.36-8.98).

Conclusions: Endometriosis was associated with both preterm and very preterm birth; however, apparently through different pathways. Women with endometriosis were more prone to have medically indicated preterm births before 37 gestational weeks and spontaneous preterm births before 32 gestational weeks compared with women without endometriosis.

Keywords: endometriosis; inducedlabor onsetpremature birthpreterm premature rupture of the membranes; labor.

B NEWS FROM OUR SOCIETY

PAST ACTIVITIES

@endometriosis_tr Live Broadcasts

On our society's Instagram account, we continued our live broadcasts, which are taking place since the beginning of the pandemic. During the last three months, we went live with our 34th and 35th broadcasts with the participation of **Prof. Koray Elter, MD, Assoc. Prof. Funda Gode, MD, Seher Sari Kayalarli, MD,** and **Fitnat Topbas Selcuki, MD.**

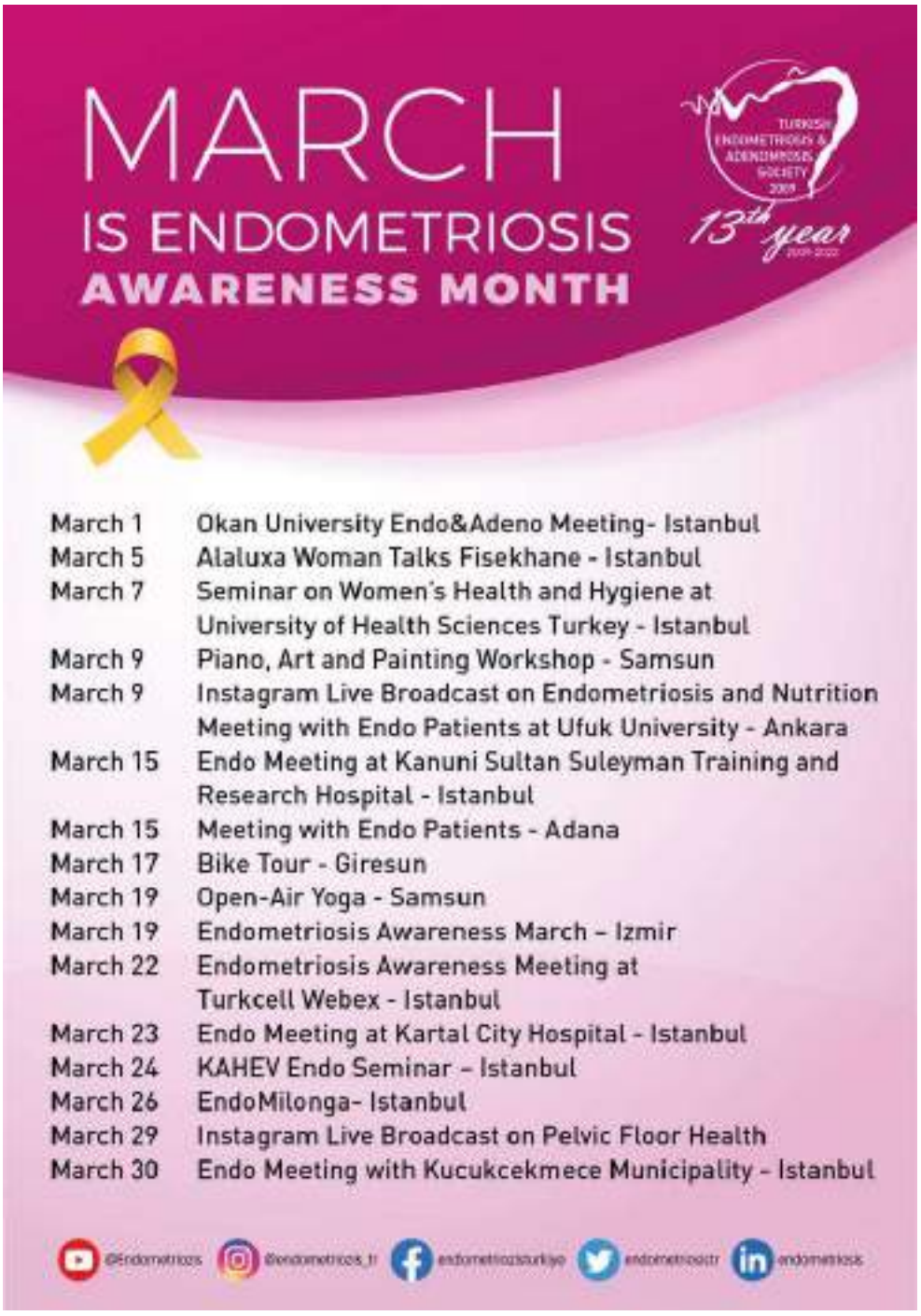
Q&A 34
Everything You Want to Know About Endometriosis
Prof. Koray Elter, MD
Seher Sari Kayalarli, MD

Q&A 35
Everything You Want to Know About Endometriosis
Prof. Funda Gode, MD
Fitnat Topbas Selcuki, MD

The second of our webinar series '**Experts Discuss Endo-Adeno with Real Cases**' will take place on the 5th of April, with **Prof. Yucel Karaman, MD, Prof. Umit Inceboz, MD, Prof. Bulent Berker, MD** participating and **Prof. Engin Oral, MD** moderating.

EndoMarch Activities

March is endometriosis awareness month. During this month we organized both educational and social activities through the country. We held seminars on endometriosis awareness at several universities and dormitories. Additionally, we organized a march for endometriosis, several workshops, live Q&As on our Instagram account and prepared endometriosis awareness billboards which were advertised throughout some of the major cities. All the activity links and videos can be found on our website.




ENDO
ÜNİVERSİTEDE
FARKINDAYIM
14:30
7 MART 2022
Sağlık Bilimleri Üniversitesi
Haydarpaşa Hastanesi
Konferans A Salonu
CANLI YAYIN
ENDOMETRİOZİS VE BESLENME
9 MART 2022
21:00
PELVİK TABAN
29 MART 2022
21:00
Online
Turkcell
Webex
Endo
Toplantısı
12:00
ENDO OKULDA
FARKINDAYIM
15:00
17 ŞUBAT 2022
BJK Kabataş Vakfı Okulları
Özel Anadolu Lisesi
Fen ve Teknoloji Lisesi


ENDO
TIP FAKÜLTESİNDE
FARKINDAYIM
17:30
1 MART 2022
Okan Üniversitesi Endometriozis ve Adenomyozis Nedir?
ENDOMETRİOZİS'İ TANIYALIM
FARKINDALIK YÜRÜYÜŞÜ


ENDOMETRİOZİS VE
ADENOMYOZİS DERNEĞİ
YÖNETİM KURULU
MART ENDOMETRİOZİS Farkındalık AYIDIR
TÜM SORULARINIZI CEVAPLIYOR!
27 MART 2022
20:00
ZOOM TOPLANTISI
İLETİŞİM 0532 515 69 99
Prof. Dr. Taner Usta
Prof. Dr. Ümit İncebız
Prof. Dr. Ahmet Kale
Prof. Dr. Engin Oral
Doç. Dr. Pınar Yalçın Bahat
Doç. Dr. Hale Göksever Çelik
Doç. Dr. Cihan Kaya

PLANNED ACTIVITIES

XIV. EndoAcademy, Endometrioma, Adana

14th EndoAcademy-Endometrioma meeting will be held on the 12th of June in Adana. The meeting will be chaired by **Prof. Turan Cetin, MD** and **Assoc. Prof. Cihan Kaya, MD**. The meeting will cover diagnosis, medical and surgical treatments, infertility and pelvic pain with a focus on endometrioma. Many experts in the field will share their knowledge and experiences on these topics.

XI. Endometriosis School, Istanbul

Endometriosis School Istanbul, which includes theoretical and hands-on laparoscopy training, and was previously held with the valuable contribution of international experts, will take place in Istanbul on May 27-28, 2022.


3rd International
ENDOMETRIOSIS SCHOOL Istanbul
May 27-28, 2022
Medtronic Innovation Center
Istanbul - Turkey
Dear colleagues,
With many countries lifting the COVID-19 pandemic restrictions, we would like to share our happiness with you that the 3rd International Endometriosis School Istanbul will be held in person in Istanbul. After the first two International Endometriosis School meetings, which were successfully held in Istanbul in 2018 and 2019, the Turkish Endometriosis and Adenomyosis Society will organize the 3rd International Endometriosis School meeting under the chairmanship of Dr. Taner Usta, Dr. Engin Oral, and Dr. Ertan Sarıdoğan.
The meeting, which aim to attract the attention of young specialists and researchers especially interested in endometriosis, consists of four main topics. All lectures will be given by well-known endometriosis experts. The first part will cover the classification, imaging, and diagnosis of endometriosis. The second part will consist of the topics related to infertility, pregnancy outcomes, and pain management in endometriosis patients. The third part will include the surgical management of endometriosis in a broad aspect, and finally, the fourth part will cover recent guidelines, management of recurrent cases, and surgical complications. The attendees will also have the opportunity of watching a live deep infiltrating endometriosis surgery.
Additionally, hands-on practice session held in the animal laboratory under the supervision of expert trainers will aim to improve participants' surgical skills . Exercises will include basic endoscopic training, hysterectomy and variety of advanced techniques related to endometriosis, such as bowel resection and anastomosis, ureteroneocystostomy, and management of major vascular injuries.
We cordially invite you to join us in this meeting, where we are certain that you will be exposed to new knowledge on endometriosis. We look forward to seeing you in Istanbul.
Kind regards
Prof. Taner Usta, MD.
Course Director
Prof. Engin Oral, MD.
Course Director
Prof. Ertan Sarıdogan, MD.
Course Director
www.endometriosisturkey.org
www.endometriosisschool.com

3rd INTERNATIONAL ENDOMETRIOSIS SCHOOL - ISTANBUL

Education Program of Endometriosis and Adenomyosis Society of Turkey

Course Directors:	**Taner Usta, Engin Oral, Ertan Sarıdogan**
Scientific Secretary:	**Tolga Karacan**

DAY 1	MAY 27, 2022
08:00-08:20	Registration
08:20-08:30	Opening: The aim and objectives of the International Endometriosis School, **Ertan Sarıdogan**
	Preschool Evaluation of The Participants (Keypad), **Işıl Ayhan**
SESSION I	**CLASSIFICATION, IMAGING AND DIAGNOSIS**
Chairs	**Levent Şentürk, Pınar Yalçın Bahat**
08:30-08:50	Useful Anatomy for Pelvic Laparoscopic Surgery
	Ahmet Kale
08:50-09:10	Imaging in Endometriosis
	Sebastian Schaefer
09:10-09:30	Current Approach to Management of Adenomyosis
	Joerg Keckstein
09:30-09:50	Classification and Staging of Peritoneal Disease, Endometrioma and Deep Infiltrating Endometriosis
	Ghassan Lotfi
09:50-10:10	Discussion
10:10-10:30	**Coffee Break**
SESSION II	**INFERTILITY, PREGNANCY, PAIN AND ENDOMETRIOSIS AT THE EXTREMES AGES**
Chairs	**Koray Elter, Nilüfer Akgün**
10:30-10:50	Management of Endometriosis and Infertility
	Engin Oral
10:50-11:10	Obstetric Outcomes in Endometriosis and Adenomyosis
	Umberto Leone Roberti Maggiore
11:10-11:30	Pain Management in Endometriosis
	Moamar Al-Jefout
11:30-11:50	Management of Endometriosis at the Extremes of Reproductive Years
	Ümit İnceboz
11:50-12:00	Discussion

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3rd International
ENDOMETRIOSIS SCHOOL Istanbul
May 27-28, 2022
Medtronic Innovation Center
Istanbul - Turkey
LIVE-1 LIVE TRANSMISSION SESSION
Chairs Hüsnü Görgen, Salih Yılmaz
12:00-14:20 Live Surgery (from Istanbul, Turkey)
Surgeon, Taner Usta
12:00-13:00 Lunch Break
SESSION III SURGICAL TECHNIQUES
Chairs Hüseyin Cengiz, Cihan Kaya
14:20-14:40 Diagnosis of Adenomyosis: Clinical and Imaging
Yutaka Osuga
14:40-15:00 Urinary Tract Endometriosis
Horace Roman
15:00-15:20 Bowel Endometriosis: Indication and Surgical Techniques
Joerg Keckstein
15:20-15:40 Surgical Techniques for Endometriomas
Taner Usta
15:40-16:00 Discussion
16:00-16:20 Coffee Break
SESSION IV GUIDELINES, RECURRENCE AND COMPLICATIONS
Chairs Murat Sönmezer, Hale Göksever Çelik
16:20-16:40 How Can We Prevent Complications During Endometriosis Surgery: Tips and Tricks
Muhammed Mabrouk
16:40-17:00 Management of Recurrent Endometriosis After Surgical Treatment
Helder Ferreira
17:00-17:20 ESHRE Guideline 2022 on Endometriosis, What is New
Ertan Saridogan
17:20-17:30 Discussion
17:30-17:40 Postschool Evaluation of the Course by the Participants (Keypad)
Cihan Kaya
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3rd International
ENDOMETRIOSIS SCHOOL Istanbul
May 27-28, 2022
Medtronic Innovation Center
Istanbul - Turkey
DAY 2 MAY 28, 2022
08:30-09:00 Pig Model for Laparoscopy - Evaluation
Medtronic
09:00-11:00 HANDS ON TRAINING
Coordinators Ahmet Kale, Cihan Kaya
Trainers Ertan Sandogan, Hüsnü Görgen, Ahmet Kale, Taner Usta, Cihan Kaya, Tolga Karacan
Training on Live Animal Tissue
Practice of Different Energy Types in Live Animal Model
Bladder Injury and Repair
Dissection of the Ureters and Major Pelvic Vessels
LIVE-2 LIVE TRANSMISSION SESSION
Chairs Suat Dede, Tolga Karacan
11:00-13:00 Live Surgery (from London, U.K.)
Surgeon, Shaheen Khazali
13:00-17:00 HANDS ON TRAINING
Training on Live Animal Tissue
Ureteric Injury and Reanastomosis
Hysterectomy
17:00-17:20 Wrap-up
Ertan Sandogan, Hüsnü Görgen, Ahmet Kale, Taner Usta, Cihan Kaya, Tolga Karacan
17:20-17:30 End of the Course - Delivery of Certificates of Attendance
Registration Fees
Hands-on Training Registration Fee (2 days) 300 Euro
Theoric Sessions Online Registration Fee (1 day) 50 Euro
Hands-on Training Registration Fee includes theoric sessions on May 27, 2022 and hands-on training on May 28, 2022.
Theoric Sessions Online Registration Fee includes only theoric sessions on May 27, 2022.
For registration or any question please send an e-mail to endometriozis@ftskongre.org or contact from this number +90 530 406 60 10.
Executive Secretary of Society: Ekin Ezgi Erdoğan, info@endometriozisdernegi.org / +90 532 515 69 99
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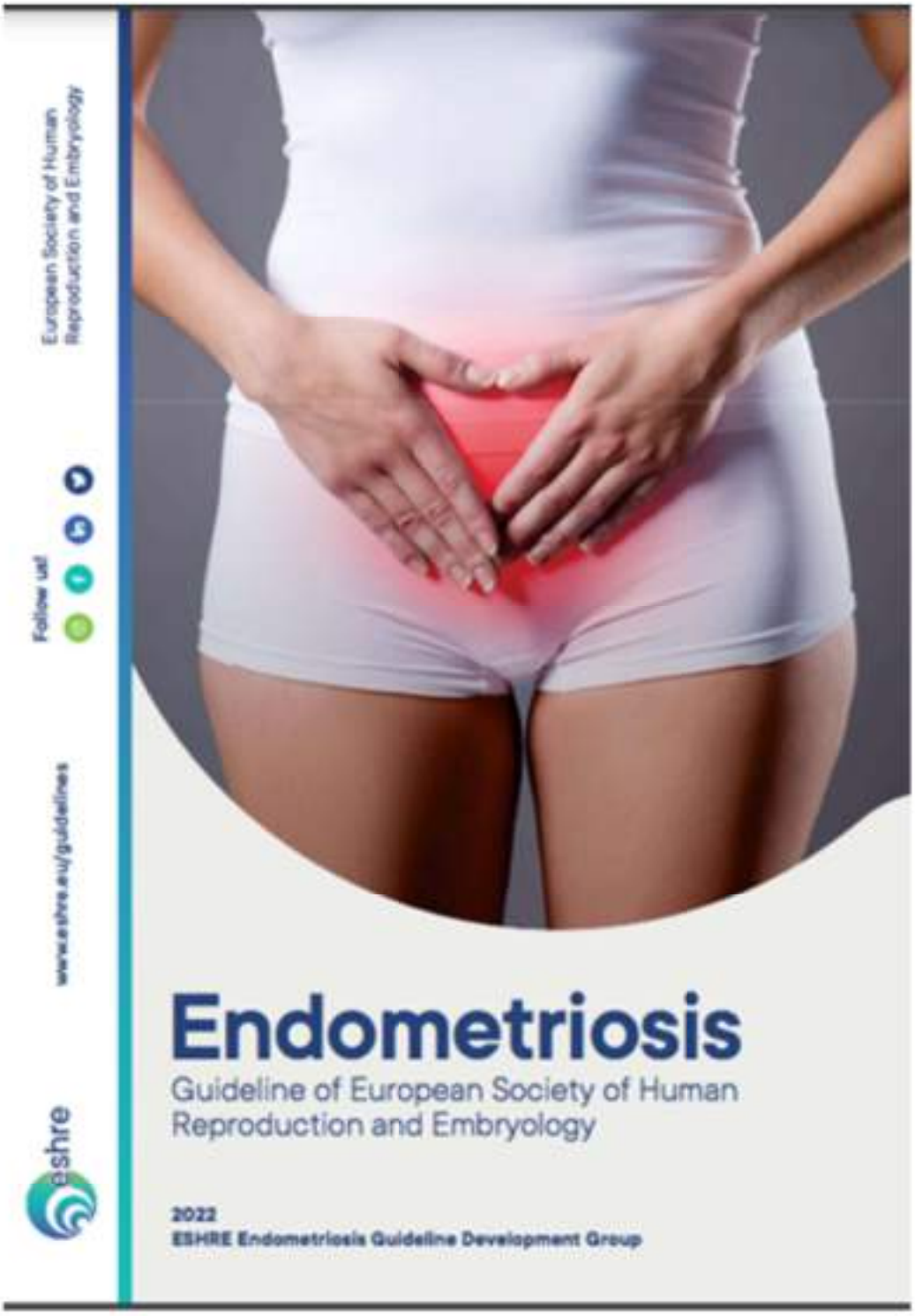
C NEWS FROM THE WORLD OF ENDOMETRIOSIS

EEL WEBINAR Program 2022

European Endometriosis League (EEL) are continuing with their Webinars in 2022.
Eliana Montanari, MD, PhD explained the presurgical use of ultrasonography in diagnosis in the webinar held in January with the title **'Presurgical Ultrasound Prediction of Deep and Ovarian Endometriosis'**. The EEL webinar **'The Role of MR Imaging in the Diagnosis of Deep Endometriosis'**, which was held in February, was presented by **Laurin Burla, MD**. In March, **Sun-Wei Guo, MD, PhD** talked about **'Adenomyosis from Pathogenesis to Treatment'**.

EEL Webinar series will continue in 2022. For more information, visit https://www.endometriosis-league.eu/home or follow the European Endometriosis League or Euro Endo League accounts on social media.

ESHRE 2022 the new Endometriosis Guideline has been published. https://www.eshre.ed/Guidelines-and-Legal/Guidelines/Endometriosis-guideline.aspx.



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6th EEC - France

The 6th European Endometriosis Congress will take place on 16-17 June 2022 in Bordeaux, France.

→ PROGRAMME

Thursday, 16th June 2022

6th EUROPEAN ENDOMETRIOSIS CONGRESS
June 16th & 17th 2022
BORDEAUX / FRANCE
Cité Mondiale

Amphitheater BRISBANE

→ Thursday, June 16th

08:00-08:30 OPENING CEREMONY
- The Congress President
- The President of EEL
- The Congress Secretary

08:30-12:30 LIVE SURGERIES
- Surgery of sacral roots
- Rectal shaving using ICG

10:30-11:00 Coffee Break

- NOSE-colectomy for colorectal endometriosis
- Ovarian endometriomas

12:10-12:30 Live surgeries at the 5th EEC:
- Patients postoperative outcomes and 2 year follow up

12:30-13:30 INDUSTRY SYMPOSIUM (see detail p.23)

Room BRASILIA

→ Thursday, June 16th

08:30-10:30 Fundamental science
- Endometriosis-Associated Macrophages: origin, phenotype, and function
- Problems and limitations of basic research in the field of endometriosis
- Neuroimmunomodulation - clinical impact on endometriosis
- Oral Communications
  TBC

10:30-11:00 Coffee Break

11:00-12:30 Imaging Tips & Tricks
- #ENZIAN classification in ultrasound
- New classification of endometriosis using MRI
- What to look for: systematical analysis in 10 minutes
- What looks like endometriosis and really is
- What looks like endometriosis and is not
  TBC

12:30-13:30 INDUSTRY SYMPOSIUM (see detail p.23)

→ PROGRAMME

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13:30-13:45 Lunch Break

13:45-14:30 DEBATE
- Where does Endometriosis come from? Hypothesis & clinical consequences
- Introduction to the debate: Is Endometriosis a progressive disease?

14:30-14:00 How to manage ovarian endometriomas?
- What imaging techniques?
- What medical treatment?
- What surgery? Debate: to excise, to ablate or sclerotherapy of ovarian endometriomas, and consequences on fertility:
  - excision:
  - ablation:
  - sclerotherapy:
- What about pregnancy and/or fertility preservation!
- What short/long term outcomes?

16:00-16:30 Coffee Break

Room BRASILIA

13:30-13:48 Lunch Break

13:40-15:15 New insights about the medical treatments & guidelines in Europe
- The evidence-base for medical management for endometriosis-associated pain
- GnRH antagonists for endometriosis
- Medical management to treat recurrence
- Progestins versus surgery for deep endometriosis
- Should progestins be offered to all women with endometriosis-associated pain?
- Novel therapeutic targets for endometriosis

15:15-16:00 INDUSTRY SYMPOSIUM (see detail p.23)

16:00-16:30 Coffee Break

→ PROGRAMME

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Amphitheater BRISBANE

16:30-17:00 Honorary President lecture:
Recognition of endometriosis lesions

17:00-18:30 SCGP Session (French Society of Pelvic Gynecological Surgery)

- My journey with endometriosis
- Is fibrosis a potential therapeutic target for endometriosis?
- Endofert: Lessons and Results
- Endometriosis Organization of the research in France
- Epidemiology of Endometriosis in France Results of a national study
- Ovarian vascularization assessment using fluoresceine

18:30-19:30 • EEL General Assembly

19:30-23:00 CONGRESS DINNER

Room BRASILIA

16:30-18:30 Expert Center in endometriosis: what does it mean?

- In Denmark
- In France
- In Germany and Austria
- In Italy
- In Romania
- French regional endometriosis networks
- Are pollocs indispensable to move forward?
- EEL Certification EuroEndoZert
- Summarize: Global consensus on the agreement on criteria for Expert Centers and individual certification

19:30-23:00 CONGRESS DINNER

→ PROGRAMME

Friday, 17th June 2022

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Amphitheater BRISBANE

→ **Friday,** June 17th

08:00-09:20 BEST VIDEOS

09:20-10:00 INDUSTRY SYMPOSIUM (see detail p.23)

10:00-11:00 Coffee Break

11:00-12:30 How to manage a deep endometriosis of the digestive tract?

- Which imaging techniques?
- Which surgical techniques ?
  - shaving:
  - segmental resection:
  - disc excision:
- How to manage complications (natural/postoperative)?
- If the patient wishes to get pregnant? What place for preoperative fertility preservation?
- What about long term outcomes?

12:30-13:00 INDUSTRY SYMPOSIUM (see detail p.23)

Room BRASILIA

→ **Friday,** June 17th

08:30-09:30 ORAL COMMUNICATIONS

09:30-10:30 Pain management

- The world of pain of endometriosis : a plea for a global care
- Endometriosis and central sensitization
- From bench to bedside: a potential novel non-hormonal treatment for endometriosis-associated pain
- From Gaming to Medical Approaches: Digital Therapeutics (DTx) in the Treatment of Endometriosis Pain

10:00-11:00 Coffee Break

11:00-12:30 Adenomyosis

- Imaging
- HIFU and RFA
- Hysteroscopic management: when and for whom?

PROGRAMME

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Amphitheater BRISBANE

Lunch Break

13.30-14.00 **Future opportunities in surgical management of complex deep endometriosis**

- Robotic surgery: does it provide any advantage?
- Augmented reality in deep endometriosis: is it feasible?
- #ENZIAN classification of endometriosis: a unique language
- Finding Endometriosis using Machine Learning: A bird's-eye view of the FEMaLe project

15.00-16.00 **ART and surgery : let's talk about infertility management**

- Infertility explained to surgeons: what they should know about ART?
- Surgery explained to ART specialists: what they should know about surgery?

Room BRASILIA

- Infertility risk
- Obstetrical risk
- Is surgery worthwhile? What place for Osada procedure?

Lunch Break

13.30-14.15 **Endometriosis and infertility: questions about AMH**

- How to trust AMH?
- 'Should we prescribe AMH to every patient presenting with endometriosis?
- Gold standard for decision of fertility preservation?

14.15-14.40 **Requierements for education in endometriosis - the residents' view**

PROGRAMME

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Coffee Break

14.30-18.00 **How to manage a deep endometriosis of the sacral plexus?**

- Anatomy of the parametrium. Symptoms of endometriosis involving sacral plexus
- What preoperative assessment?
- Nerve sparing vs. radicality: Is radicality always necessary?
- Excision of deep nodules of parametria in 10 steps
- Neuropraxia, what does it mean?
- What short/long term outcomes?

Closing Ceremony

Room BRASILIA

14.40-16.00 **Endometriosis and cancer**

- Endometriosis and cancer
- How to manage large ovarian endometriosis in premenopausal patients? Oophorectomy or not?
- Risk of cancer - reasons for radical surgery in symptom free patients?
- Hormon replacement therapy and risk of malignant transformation of endometriosis

Coffee Break

14.30-18.00 **Early-Career WES session:**

- Career path testimonials
- Winners programme
- WES mentoring programme

SEUD 2022

The 8th Congress of The Society of Endometriosis and Uterine Disorders will be held in May in Athens.

D INTERVIEW WITH AN 'ENDO SPECIALIST'

Mario Malzoni
Interviewer: Ezgi Darici

Turkish Endometriosis and Adenomyosis Society (EAD): Doctor Malzoni, thank you very much for accepting our invitation to this interview. You have been dealing with endometriosis for many years. Can you tell us how your journey with endometriosis started?
Mario Malzoni (MM): My experience with endometriosis began many years ago in 1995. After my education at the University of Naples, I went to Columbia University in New York, where I worked with Professor Harry Reich. Harry Reich is one of the most important pioneers in the research and surgical treatment of endometriosis and especially in the laparoscopic and surgical treatment of deep endometriosis. I started working with my mentor Harry Reich in the US in 1996 and spent a year with him at both Columbia University and a private centre, and then I came back to my home centre in Italy. My clinic is a private clinic, but it has an agreement with the Italian healthcare system. So, we operate like a public hospital in a very large geographical area in the southern part of Italy, so we have many patients with deep endometriosis. In 1997, we started operating on difficult endometriosis cases, a general surgeon was working in my clinic at that time.

Then I started to assemble a team of young doctors specializing only in laparoscopic surgery, which included gynaecology, oncology and deep endometriosis surgeons, but no obstetricians. Then we started operating on cases of bowel and bladder endometriosis. We're currently doing at least 800-900 surgeries a year at The Malzoni Centre. Our current philosophy is that the gynaecology team should do all the work during the operation themselves. So, we do everything from bowel surgery to bladder and ureter surgery which is very important. Because in this way, you and your entire team both increase your experience and improve in the management of complications.

EAD: What do you think is the most challenging aspect of the disease? Diagnosis or treatment?
MM: I think every aspect of deep endometriosis is challenging. The challenge starts from the diagnosis. Sometimes the diagnosis of the disease is very difficult, and we need a very good diagnostic capability. There is a very good ultrasonographer in our group. Dr. DiGiovanni is a person with very high diagnostic accuracy and specializes in the diagnosis of deep endometriosis. We have published all our data in our clinic. At the level of the posterior compartment, lateral compartment, bowel, bladder, anterior compartment, ureter, and parametria, we have a diagnostic accuracy of greater than 90 percent, sometimes 100 percent. This is really important. And if you evaluate patients very well at the beginning, you can plan the right strategy which sometimes means medical treatment, pregnancy, or sometimes surgery. When the surgery decision is made, if the correct diagnosis is made, you can talk to the patients about the surgical strategy, the complications that may occur during the surgery, and therefore you will not encounter any surprises during the surgery. In this case, everything is planned before entering the operating room. So if you need bowel preparation for bowel surgery, you have time, or you need cooperation with other doctors, general surgeon or urologist, you can be better organize before surgery, reducing the risk of surprises and of course reducing the risk of complications. The biggest challenge of endometriosis surgery is deep endometriosis, of course, in my opinion, bowel surgery, bladder and ureter surgery but especially parametrial surgery. Surgery becomes very difficult at the level of the parametrium, especially in the presence of bilateral parametrial involvement, especially in the dorsal and lateral parametrial involvement. This is because your risk of denervation increases. You should explain this situation to the patient, share all the risks with the patient, and plan the right surgery, especially for young patients, because your risk of neurological complications will be high after such a surgery. While removing the lesions, you must perform the surgery without damaging the nerves. For this reason, I think parametrial endometriosis is the most difficult part of the surgery.

EAD: You see a lot of endometriosis patients. Some of your patients are adolescent and perimenopausal patients who are at the beginning and end of their fertility periods. Do you have different strategies for the management of these patients?
MM: Yes, of course. For me, the first try is definitely medical treatment. Therefore, if we have an ultrasound evaluation suggestive of deep endometriosis in adolescent patients, of course, we sometimes consider the option of surgery, but you know that the prevalence of deep endometriosis in adolescent patients is very low. That is, there is usually superficial-peritoneal endometriosis. In my opinion, the necessity of surgery in adolescent patients is rare. However, if surgery is necessary, you need to implement medical treatment after the surgery. Therefore, I usually prefer to start with medical treatment. Of course, you need long-term medical treatment. For this reason, initially you may be able to start with a progesterone-containing drug, possibly dienogest, followed by continuous oestrogen-progesterone drugs. Strategy in perimenopause depends on diagnosis. If there is a case of deep endometriosis with infiltration of organs and you suspect organ damage, such as the dilatation of bladder, ureter, or intestinal obstruction, then of course, surgery is required. But if there is no organ involvement and the patient is of perimenopausal age, medical treatment is likely to work well, and you can continue with medical treatment until the age of menopause. If medical treatment doesn't work and if adenomyosis is present with deep endometriosis, you can of course decide to remove the uterus and ovaries and take a radical procedure to completely stop oestrogen production.

EAD: You are one of the pioneers in the field of endometriosis surgery. Can you give us some tips on how we can prevent complications during surgery? Of course, you mentioned pre-operative mapping before, but what if something happens during surgery?
MM: Yes, if we do a good mapping before the surgery, the risk of surprise is very low, but of course you always have the risk for complications. So, I think many of the tips and tricks you need to reduce the risk of complications are based on a good surgical strategy. So, to get to the disease, search the retroperitoneal anatomy starting from the normal tissue, see the ureters, see the nerves, know the nerve anatomy so you know exactly where the nerves are and then you can go inside the disease to remove the disease. The use of electricity, bipolar, monopolar is very important. The use of ultrasound devices is very important. Circular stapler use and technology knowledge are very important in intestinal surgery. We have started to use diode laser in the treatment of superficial endometriosis, and especially in the treatment of endometrioma, to reduce the damage to the ovarian tissue. We use the laser to avoid excision and evaporate the capsule, especially in cases of bilateral endometrioma. We know that the risk of recurrence is probably higher compared to excision, but I think it is a better method of reducing the risk of ovarian damage, especially if a young woman has bilateral endometrioma.

EAD: You told us about your endometriosis journey and said that you have worked with many young doctors and surgeons. Do you have any advice for young colleagues who want to specialize in endometriosis?
MM: Sure. The recommendation is that if you want to do this type of surgery, you have to completely lose your obstetric side. You just have to focus on gynaecology. And, of course, you need to be well-trained in a specialized centre for endometriosis (excellence centre) and work collaboratively with radiologists or sonographers to compare the diagnosis and be in constant communication every day. To compare the diagnosis with intraoperative evaluation, you need to spend all day in the operating room with a trained sonographer or radiologist.

EAD: It is very nice that you not only do your daily practice but also organize Malzoni Meetings. How did you start organizing these meetings?
MM: Since the number of doctors specializing in the treatment of deep endometriosis is very few, we set out with the idea of sharing our experiences with our colleagues in order to share scientific knowledge and increase the number of experts in this field. Thus, we started organizing meetings in our own centre in 1999. Every year we organize a big meeting, national, international, many courses throughout the year. We organize different courses for oncology, endometriosis, up-to-date technological approach courses on pelvic, and we hold our international endometriosis meeting every three years. We did the last one online due to COVID and now we will have a very big meeting in Rome in 2023. In May, we will organize it together with AAGL, European Society of Gynaecology and Italian Society of Gynaecological Endoscopy. During the four-day congress not only endometriosis, but also oncology, benign diseases and hysteroscopy will be discussed. We have also developed a new platform, 'Malzoni TV', based on our COVID experiences, and it continues very well. At least 1000 people access the platform every Friday. We decided to organize one Friday every month, this event is called 'Friday I am Online''. We organize the event with different topics every month.

EAD: And my last question is, do you offer fellowship opportunities at your centre?
MM: Yes, of course. We have many residents and fellows from different parts of the world here. We have at least two people from other countries and two assistants from the Italian University. In other words, four people are with us every day, and the duration of their participation can be three months, six months, one year, sometimes up to two years.

EAD: Thank you very much for your time and for your valuable contribution.

E ARTICLES ON ENDOMETRIOSIS FROM OUR COUNTRY FROM THE LAST THREE MONTHS

1. Effects of ranibizumab and zoledronic acid on endometriosis in a rat model.

Ureyen Ozdemir E, Adali E, Islimye Taskin M, Yavasoglu A, Aktug H, Oltulu F, Inceboz U.
Arch Gynecol Obstet. 2022 Jan;305(1):267-274. doi: 10.1007/s00404-021-06104-9. Epub 2021 Jun 3. PMID: 34081204.

Purpose: To investigate the histological efficacy of ranibizumab and zoledronic acid in an experimentally induced endometriosis model as compared with danazol, buserelin acetate and dienogest.

Methods: Endometrial implants were introduced in 52 female Wistar albino rats, which were then randomly divided into six groups. The animals were, respectively, given dienogest, danazol, buserelin acetate, zoledronic acid, ranibizumab and 0.9% NaCl. After 4 weeks, the volumes and histopathological properties of the implants were evaluated and the implants were excised completely at the third laparotomy. A histopathological scoring system was used to evaluate the preservation of epithelia. Endometrial explants were evaluated immunohistochemically.

Results: Among the groups, the histological score was significantly lower in the zoledronic acid and ranibizumab groups compared with the controls ($p < 0.001$). There were no significant differences regarding ellipsoidal volume levels between groups ($p > 0.05$). However, there was a statistically significant difference regarding cell numbers according to the degree of Bcl-2, NF-κB, and CD31 staining ($p < 0.001$). There was no statistically significant difference in Bcl-2, CD31, or NF-κB staining in the binary comparisons between the other groups ($p > 0.05$). For Bcl-2 staining, the staining rate of the group treated with zoledronic acid was significantly lower compared with the dienogest and danazol groups ($p < 0.05$). The staining rates of CD31 and NF-κB were significantly lower in the zoledronic acid and ranibizumab groups compared with the controls ($p < 0.05$).

Conclusion: According to these results, zoledronic acid and ranibizumab may be putative candidates for the treatment of endometriosis.

2. T-Cadherin, E-Cadherin, PR-α, and ER-α Levels in Deep Infiltrating Endometriosis

Kalkan U, Biyik I, Simsek S. Int J Gynecol Pathol. 2022 Feb 11. doi: 10.1097/PGP.0000000000000860. Epub ahead of print. PMID: 35149616.

Abstract

The goal of this study was to compare the T-cadherin, E-cadherin, progesterone receptor (PR), and estrogen receptor (ER) staining levels of deep infiltrating endometriosis (DIE) tissue, ovarian endometriomas and normal endometrial tissues in the same individuals. The tissue sections of both DIE nodule(s) and endometrioma(s) of 15 cases were examined. As a control group, normal endometrial tissue sections of 23 cases were examined. T-cadherin, E-cadherin, ER-α, and PR-α staining levels of DIE, endometrioma tissues, and endometrial tissues were compared immunohistochemically. H-score was calculated to compare the expression of T-cadherin, E-cadherin, ER-α, and PR-α in immunohistochemical staining based on the percentage of cells stained at each intensity level. T-cadherin, E-cadherin, ER, and PR H-score were lowest in DIE tissue and highest in endometrial tissue ($P<0.0001$, <0.0001, <0.0001, and <0.0001, respectively). In correlation analysis, a positive correlation was found between T-cadherin, E-cadherin, PR, and ER H-score ($P<0.0001$ for each). T-cadherin, E-cadherin, ER, and PR H-score were lowest in DIE tissue and highest in endometrium tissue. We think that examination of DIE tissue and endometrioma tissue from the same individual excludes the possibility of an effect due to different genetic and environmental factors from different individuals. With the help of this exclusion we showed that DIE and endometrioma have different biological properties.

3. Analysis of Changes in Serum Levels and Gene Expression Profiles of Novel Adipocytokines (Omentin, Vaspin, Irisin and Visfatin) and Their Correlation with Serum C-reactive Protein Levels in Women Diagnosed with Endometriosis.

Kaya Sezginer E, Kırlangıç ÖF, Eşkin Tanrıverdi MD, Topçu HO, Gür S. Turk J Pharm Sci. 2022 Feb 28;19(1):48-53. doi: 10.4274/tjps.galenos.2021.52284. PMID: 35227049; PMCID: PMC8892558.

Objectives: This study aimed to investigate the role of new adipocytokines (omentin, vaspin, irisin and visfatin) in the development of endometriosis and the relationship of these adipocytokines with the inflammatory marker, C-reactive protein (CRP) levels in serum.

Materials and methods: In this study, endometriosis (n=16) and control groups (n=14) were determined *via* ultrasound. Serum omentin, vaspin and irisin levels were measured by ELISA method. CRP levels in serum and the gene expression of visfatin and vaspin in whole blood samples were determined by clinical analyzer and the real-time polymerase chain reaction, respectively.

Results: Serum irisin and CRP levels in the endometriosis group were significantly higher than in the control group. Irisin protein levels demonstrated a positive correlation with body mass index and CRP in women diagnosed with endometriosis. No statistically significant difference was found in serum omentin and vaspin levels between groups. The visfatin and vaspin gene expression in whole blood samples from the endometriosis group was found to be significantly lower than the control group.

Conclusion: Increased levels of serum irisin and decreased visfatin and vaspin gene expressions in blood may be considered as a potential biomarker in endometriosis. The identification of new adipocytokines, which demonstrate an alteration in the presence of endometriosis and the relationship between these adipocytokines and inflammation will facilitate the detection of mechanisms involved in endometriosis and will lead to the development of targeted therapy.

4. The effects of adalimumab on the rat autotransplantation endometriosis model: A placebo-controlled randomized study.

Kaplan S, Kırıcı P, Türk A. Adv Clin Exp Med. 2022 Jan 18. doi: 10.17219/acem/144369. Epub ahead of print. PMID: 35040600.

Background: Endometriosis is a chronic inflammatory pathology that can cause persistent pelvic pain and infertility by affecting women of reproductive age. It is defined as the placement of endometrial tissue outside the uterine cavity. Hormonal, genetic and immunological factors have an effect on the development of endometriotic implants. Adalimumab is a monoclonal antibody specific for tumor necrosis factor alpha (TNF-á), used in the treatment of autoimmune diseases.

Objectives: To investigate the effectiveness of adalimumab on histopathological and biochemical values in rats with experimental endometriosis.

Material and methods: This study is a comparative, prospective, experimental rat study. Wistar albino female rats were divided into 4 groups. Group 1 was separated as the control group. Endometriotic implants were simultaneously induced in group 2 and group 3. After 4 weeks, developing endometriotic foci were measured. Adalimumab (5 mg/kg) was simultaneously intraperitoneally (ip.) administered to group 3 and group 4 for 4 weeks. At the end of the study, histopathological scoring and fibrillin-1 scoring were performed. Total antioxidant status (TAS), total oxidant status (TOS) and malondialdehyde (MDA) values were measured. Findings in all groups were compared.

Results: When group 1 and group 2 were compared, the histopathological score, as well as MDA and TOS levels increased, while TAS levels decreased in group 2 ($p < 0.001$). After adalimumab treatment, the average endometriotic implant size in group 3 (0.32 ±0.002 mm) decreased compared to group 2 (0.77 ±0.04 mm) ($p = 0.032$). While fibrillin-1 score increased in group 2 and group 3 compared to group 1, it decreased in group 3 compared to group 2 ($p < 0.001$). Histopathological score decreased, TAS levels increased and MDA levels decreased in group 3 compared to group 2 ($p < 0.001$).

Conclusions: Adalimumab may play a role in the regression of endometrial implants by showing antioxidant and anti-inflammatory effects on histopathological damage and fibrosis.

5. Predictive value of preoperative MRI using the #ENZIAN classification score in patients with deep infiltrating endometriosis.

Fendal Tunca A, Iliman DE, Akdogan Gemici A, Kaya C. Arch Gynecol Obstet. 2022 Mar 3. doi: 10.1007/s00404-022-06451-1. Epub ahead of print. PMID: 35239004.

Purpose: The aim of this study is to investigate the correlation between the magnetic resonance imaging (MRI) and intraoperative findings of deep infiltrating endometriosis using the #ENZIAN score.

Methods: This retrospective study included 64 patients who underwent surgery for deep infiltrating endometriosis between January 2017 and August 2020. Preoperative abdominopelvic MRI assessment was evaluated and scored using the #ENZIAN classification. Operative scores were considered the gold standard, and the sensitivity, specificity, and positive and negative predictive values (PPV and NPV) of MRI for each category were calculated.

Results: MRI has higher sensitivity and specificity in showing the lesions of the compartments O (ovarian lesions), A (rectovaginal septum and posterior vaginal fornix), and B (uterosacral ligaments and parametrium) (100-100%, 100-100%, and 97-100%, respectively, $p < 0.001$) compared to the other compartments. The lowest sensitivity, specificity, accuracy, and PPV of the MRI was found in compartment P (14%, 76%, 70%, and 7%, respectively).

Conclusion: We demonstrated that the #ENZIAN classification in MRI reports has significant sensitivity and specificity in compartments A, B (uterosacral ligaments and parametrium), and O. Furthermore, the determination of peritoneal lesions via MRI is inadequate.

6 .The rate of oocytes with granular cytoplasm is higher in women with endometrioma in ICSI cycles.

Bilgic BE, Kurek Eken M, Ayla Ş, Kose A, Kutlu T, İlhan G. J Obstet Gynaecol. 2022 Apr;42(3):467-471. doi: 10.1080/01443615.2021.1916803. Epub 2021 Jun 24. PMID: 34165007.

Abstract

The purpose of this study was to investigate the impact of endometrioma on oocyte morphology and fertility outcome in intracytoplasmic sperm injection (ICSI)cycles. The study material was obtained from 114 ICSI cycles of infertile women aged between 20 and 38 years with ovarian endometriomas and unexplained infertility. In total, 644 mature oocytes were included in the analysis. The rates of specific oocyte morphological abnormalities were similar between the two groups however the central granulation rate was significantly higher in the group with endometrioma ($p< .05$). Fertilisation rate were not significantly different between the groups ($p\geq .05$) however the numbers of metaphase 2 (MII) oocytes and embryos were lower in the endometrioma group ($p\leq .05$). Endometrioma was associated with a higher rate of oocytes with granular cytoplasm, despite the fertilisation rate the numbers of the MII oocytes and embryo were affected.IMPACT STATEMENT

What is already known on this subject? The association between endometrioma and infertility is a well-known condition, but the possible mechanisms of the effects of endometrioma on women's fertility is still debated and controversial. There is limited data on the effect of endometrioma on oocyte morphology. Low oocyte quality and lower fertilisation rates might be the main cause of adverse pregnancy outcomes during *in vitro* fertilisation/intracytoplasmic sperm injection cycles.

What do the results of this study add? Endometrioma was associated with a higher rate of oocytes with granular cytoplasm, and lower metaphase 2 oocytes and embryos.

What are the implications of these findings for clinical practice and/or further research? Future studies using further oocyte quality assessment methods and prospective observational studies including live-birth rate should be designed to better understand how endometrioma affects fertility outcomes.

7. Bisphenol A levels in bowel endometrioma diagnosed serums: A case control study.

Ardic F, Celik H, Yesilyurt H, & Ozcelik Otcu S. EXPERIMENTAL BIOMEDICAL RESEARCH, 5(1), 38-47. https://doi.org/https://doi.org/10.30714/j-ebr.2022173849

Aim: To investigate the bisphenol A (BPA) levels, which may be a risk factor in the etiology of endometrioma, in patients diagnosed laparoscopically with endometrioma with and without bowel involvement.

Method: In the prospective cross-sectional case control study, 47 cases were included in the study, which were admitted to the gynecology and infertility services with and without bowel involvement endometrioma who were operated and diagnosed histopathologically. 43 patients were included in the control group. For serum BPA value, blood samples taken immediately before the operation were studied in laboratory. Patients and controls were compared with controls in terms of serum BPA values.

Results: The mean age of the patients was 35 ± 2 in the endometriosis group and 36 ± 2 in the control group which was and not statistically significant. There was no statistical difference between the patient and control groups in terms of menstruation periods. Serum BPA levels were significantly higher in the bowel involvement group compared to the non-bowel involvement group, as the distribution width was higher due to excessive values, and only 5 patients with bowel involvement did not reach statistically significant levels. Serum BPA level was 1084±1132 ng/L in the endometriosis group and 269±99 ng/L in the control group which was statistically significant *(p<0,001)*.

Conclusions: BPA levels were showing very wide range especially in the patient group. Serum BPA levels was statistically significantly higher in the endometrioma group compared to the control group. Therefore, in the etiology of endometriosis BPA may take a definite place.

8. A Rare Cause of Bowel Obstruction Mimicking Colon Cancer: Endometriosis.

Açar S, Çiftçi E, Çetiner H, Api M. J Clin Obstet Gynecol. 0;0(0):0-0.

Abstract

Intestinal involvement is observed in a significant portion of patients diagnosed with endometriosis. Involvement is often on the serosal surface of the sigmoid colon. Rarely, it takes place in the colonic mucosa and lymph nodes, causing lumen obstruction. Colonoscopic biopsies may be insufficient in the differential diagnosis of malignancy and diverticulitis. We report on a case of a 41-year-old premenopausal female patient endometriosis located in the ampulla recti causing complete intestinal obstruction was detected. Although having a significant rectal mucosal mass, the diagnosis could not be made with tissue samples taken by endoscopy. During the examination, the patient developed ileus. With the preliminary diagnosis of rectal cancer, surgical intervention was applied with oncological principles, and its treatment was performed with opening a diverting ileostomy. Diagnosis of rectosigmoid endometriosis is difficult. In women of childbearing age, rectosigmoid endometriosis should be kept in mind in lower gastrointestinal tract obstructions.

9 . Abdominal wall endometriosis: Case-series study and a systematic review.

Katırcı Y. , Özdemir A. , Gülümser Ç. , Gun S. Journal of Experimental and Clinical Medicine. 2022; 39(1): 292-297.

Abstract

Abdominal wall endometriosis (AWE) is the presence of endometrial gland and stroma in the abdominal wall that should be kept in mind in differential diagnosis of pelvic pain due to especially increased C-section rates. Between January 2000 and July 2018, MEDLINE and EMBASE databases were systematically reviewed using the search criteria "abdominal wall endometriosis," "abdominal wall endometriomas,". Only the studies having over 20 patients were included. Case-series, case-control studies, and articles in languages other than English were excluded. Number of the patients, patients 'age, study design, previous surgical history, most common symptom, time interval to symptoms, treatment, recurrence rate, and tumour size were investigated. In Total, 18 studies and 994 women were included in the study. Case studies, studies with less than 20 cases, non-English articles were excluded from the study. In the included studies, the numbers of minimum and maximum woman were 20 and 227, respectively. AWE significantly impairs the quality of life in reproductive age patients and is commonly seen in women with previous history of laparotomy, especially those who underwent cesarean section. Therefore, it must be kept in mind in the differential diagnosis of women who have a history of pain and a history of previous surgery.

10. A DESMOID TUMOR IN PREGNANCY MIMICKING SUBCUTANEOUS ENDOMETRIOSIS; A CASE REPORT.

Ertekin, Arif Aktug, et al.Ertekin, Arif Aktug, et al. Journal of Istanbul Faculty of Medicine, vol. 85, no. 1, Mar. 2022, pp. 136+. Gale OneFile: Health and Medicine, link.gale.com/apps/doc/A691769379/HRCA?u=anon~108b5c25&sid=googleScholar&xid=cb223046. Accessed 15 Mar. 2022.

Abstract

Desmoid tumors are benign non-metastasizing tumors. However, they may proliferate and infiltrate into adjacent tissues with high recurrence rates. Even though its etiology is unclear, a previous histories of trauma, surgery, pregnancy, use of medication containing estrogen, and having conditions such as familial adenomatous polyposis and Gardner syndrome can be regarded as contributing or risk factors.

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