

ENDOMETRIOSIS  
BULLETIN  
OCTOBER 2022/  
ISSUE XXIII

## SELECTED ARTICLES

Endometriosis and Migraine  
Coexistence

Expectations of patients and their  
relatives with endometriosis

The relationship between hormonal  
chemicals and endometriosis

Special  
Interview

# BELOW

# THE BELT

and the director of *Endo What?*  
Shannon Cohn

Shannon Cohn

[www.endometriosisdernegi.org](http://www.endometriosisdernegi.org)

### PREFACE

Hello,

We are with you again with our 23<sup>rd</sup> issue. In this new issue of our quarterly newsletter, you can find details about current advancements in endometriosis and adenomyosis and updates on our society's activities.

In this issue, you will find summaries about the relationship between endometriosis and menopause, the effects of chemicals on the occurrence of endometriosis, the association between endometriosis and migraine, the role of PET in the diagnosis of endometriosis patients, the expectations of patients and family members in endometriosis, and the role of T cells in the development of endometriosis.

ENDO/ADENO article hour, the scientific activity of our association, was held under the moderation of **Prof. Engin Oral, MD.** and **Prof. Ahmet Kale, MD.**, on Thursdays, August 11 and September 8, 2022. It was carried out with the articles presented by **Kübra Boynukalın, MD.**, **Şule Yıldız, MD.**, **Assoc. Prof. Yusuf Aytac Tohma, MD.**, and **Karolin Ohanoğlu, MD.**

Our association's founding president, **Prof. Engin Oral, MD.** has been selected to the advisory board of the "**Finding Endometriosis using machine learning**" (FEMaLe) Project; a project aiming to improve the quality of life of endometriosis patients by developing tools such as individualized diagnosis and treatment for endometriosis patients, personalized risk estimation models and diagnosis of the disease at an earlier stage.

On September 16, the election of the new board of directors, which will serve between 2023 and 2025, was chosen at the general assembly meeting of our association. Accordingly, our association's new chairman of the board is **Prof. Ümit Inceboz, MD.** and its second president is **Prof. Ahmet Kale, MD.** Representing our association both in our country and abroad successfully, we would like to thank **Prof. Taner Usta, MD.** and the previous board of directors. We wish **Assoc. Prof. Yusuf Aytac Tohma, MD.** all the best in his new position as the new board member of our association.

The 15<sup>th</sup> of our **Endoacademy** meetings chaired by **Prof. Ahmet Kale, MD.** and **Prof. Koray Elter, MD.** was held on September 18, 2022, in Edirne. The meeting was held with the scientific contributions of valuable professors covering the diagnosis of endometriosis, its medical and surgical treatment, its relationship with infertility and pelvic pain. It was a successful meeting attended and benefited by many physicians dealing with endometriosis from Edirne and surrounding cities.

The congress of the **European Society of Gynecological Endoscopy** was held in Lisbon, Portugal between 2-5 October 2022. In this congress, our association's board member **Prof. Taner Usta, MD.** will participate as a scientific officer.

**Prof. Kutay Biberöglü, MD.**, a board member of the **Asian Endometriosis Association** and a member of our association's **Advisory Board and Disciplinary Committee**, was both a presenter and a session moderator at the **10<sup>th</sup> Congress of the Asian Endometriosis Society**, held in Moscow on 6-8 October 2022.

Among the future scientific activities of our association, the **1<sup>st</sup> Kartal Dr. Lütfi Kırdar Obstetrics and Gynecology** days will be held at Kartal City Hospital between 13-14 January 2023. Under the chairmanship of **Prof. Ertan Sarıdoğan, MD.** and **Prof. Taner Usta, MD.**, the ESGE Regional Workshop is planned to be held at Istanbul Taksim Sofitel Hotel between 10-11 March 2023.

Endo-Specialist interview guest of this month's issue was **Below the Belt** movie director **Shannon Cohn** from USA. In this valuable interview with her, you will be able to find information about the film content and upcoming projects.

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

Best regards,  
Prof. Ümit Inceboz, MD.  
President of the Turkish Endometriosis & Adenomyosis Society

## Turkish Endometriosis & Adenomyosis Society Board of Directors 2022-2025

Turkish Endometriosis and Adenomyosis Society's Founding President  
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(Board Member)

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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](mailto:drcihankaya@gmail.com).

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# A SELECTED ARTICLES

## 1

### Association Between Laparoscopically Confirmed Endometriosis and Risk of Early Natural Menopause

Madhavi Thombre Kulkarni et al. JAMA Netw Open. 2022

#### Abstract

**Importance:** Early natural menopause (ENM) has been associated with reduced reproductive span, cardiovascular disease risk, and early mortality. The potential adverse implications of endometrioma surgery for ovarian reserve are known, yet the association of endometriosis with menopausal timing remains understudied.

**Objective:** To investigate the association between endometriosis and risk for ENM.

**Design, setting, and participants:** This large, population-based cohort study analyzed data from the Nurses' Health Study II cohort questionnaires from the 1989 to 2015 questionnaire cycles. The sample included premenopausal women aged 25 to 42 years at baseline or enrollment in 1989. Cumulative follow-up rate was greater than 90%, and participants continued follow-up until the onset of ENM, age 45 years, hysterectomy, oophorectomy, cancer diagnosis, death, loss to follow-up, or end of follow-up in May 2017, whichever occurred first. Data analyses were conducted from October 26, 2020, to April 27, 2021.

**Exposures:** Endometriosis diagnosis status was queried in the biennial questionnaires, with participants reporting physician diagnosis and whether the diagnosis was laparoscopically confirmed.

**Main outcomes and measures:** Natural menopause before age 45 years. Menopause status was assessed every 2 years.

**Results:** The study included 106 633 premenopausal women with a mean (SD) age of 34.8 (4.3) years at baseline, of whom 3921 reported a laparoscopically confirmed endometriosis diagnosis. During 1 508 462 person-years of follow-up, 6640 participants reported being diagnosed with endometriosis, 99 993 never reported endometriosis, and 2542 reported experiencing ENM. In the age- and calendar time-adjusted model, laparoscopically confirmed endometriosis was associated with a 50% greater risk for ENM (hazard ratio [HR], 1.51; 95% CI, 1.30-1.74). A similar risk was observed after adjusting for race and ethnicity and time-varying anthropometric and behavioral factors (HR, 1.46; 95% CI, 1.26-1.69). With additional adjustment for reproductive factors, the HR of ENM was attenuated but significant (HR, 1.28; 95% CI, 1.10-1.48). A greater risk of ENM was observed among women who were nulliparous after stratifying by parity (nulliparous vs parous: HR, 1.46 [95% CI, 1.15-1.86] vs 1.14 [95% CI, 0.94-1.39]; P for heterogeneity = .05) or who never used oral contraceptives when stratifying by oral contraceptive use (never vs ever: HR, 2.03 [95% CI, 1.34-3.06] vs 1.20 [95% CI, 1.02-1.42]; P for



heterogeneity = .02). No significant differences were observed in the association between endometriosis and ENM when stratifying by body mass index (calculated as weight in kilograms divided by height in meters squared; <25 vs ≥25: HR, 1.20 [95% CI, 0.99-1.45] vs 1.43 [95% CI, 1.11-1.83]; P for heterogeneity = .34), cigarette smoking status (never vs ever: HR, 1.36 [95% CI, 1.13-1.65] vs 1.11 [95% CI, 0.87-1.42]; P for heterogeneity = .57), or history of infertility attributed to ovulatory disorder (no vs yes: HR, 1.28 [95% CI, 1.08-1.51] vs 1.28 [95% CI, 0.90-1.82]; P for heterogeneity = .86).

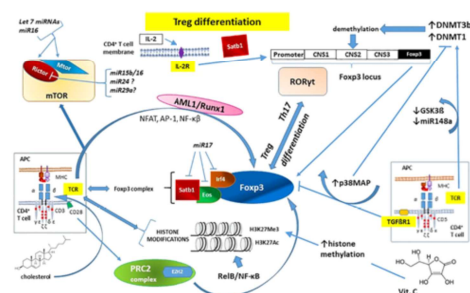
**Conclusions and relevance:** This cohort study found a risk for ENM in women with laparoscopically confirmed endometriosis. These women compared with those without endometriosis may be at a higher risk for shortened reproductive duration, particularly those who were nulliparous or never used oral contraceptives.

## 2 Epigenetic regulation and T-cell responses in endometriosis – something other than autoimmunity

Dariusz Szukiewicz. *Front Immunol.* 2022.

### Abstract

Endometriosis is defined as the presence of endometrial-like glands and stroma located outside the uterine cavity. This common, estrogen dependent, inflammatory condition affects up to 15% of reproductive-aged women and is a well-recognized cause of chronic pelvic pain and infertility. Despite the still unknown etiology of endometriosis, much evidence suggests the participation of epigenetic mechanisms in the disease etiopathogenesis. The main rationale is based on the fact that heritable phenotype changes that do not involve alterations in the DNA sequence are common triggers for hormonal, immunological, and inflammatory disorders, which play a key role in the formation of endometriotic foci. Epigenetic mechanisms regulating T-cell responses, including DNA methylation and posttranslational histone modifications, deserve attention because tissue-resident T lymphocytes work in concert with organ structural cells to generate appropriate immune responses and are functionally shaped by organ-specific environmental conditions. Thus, a failure to precisely regulate immune cell transcription may result in compromised immunological integrity of the organ with an increased risk of inflammatory disorders. The coexistence of endometriosis and autoimmunity is a well-known occurrence. Recent research results indicate regulatory T-cell (Treg) alterations in endometriosis, and an increased number of



highly active Tregs and macrophages have been found in peritoneal fluid from women with endometriosis. Elimination of the regulatory function of T cells and an imbalance between T helper cells of the Th1 and Th2 types have been reported in the endometria of women with endometriosis-associated infertility. This review aims to present the state of the art in recognition epigenetic reprogramming of T cells as the key factor in the pathophysiology of endometriosis in the context of T-cell-related autoimmunity. The new potential therapeutic approaches based on epigenetic modulation and/or adoptive transfer of T cells will also be outlined.

**Keywords:** T cells; T-cell reprogramming; autoimmunity; endometriosis; epigenetic mechanisms.

## 3 Patients' and relatives' perspectives on best possible care in the context of developing a multidisciplinary center for endometriosis and adenomyosis: findings from a national survey

Omtvedt et al. *BMC Women's Health* (2022) 22:219

### Abstract

**Background:** Endometriosis and adenomyosis are common benign conditions compromising both physical and psychological health, with a negative impact on quality of life. This survey aimed to establish what the users' perspectives are on best possible care in the context of developing a multidisciplinary center for endometriosis and adenomyosis in Norway.

**Methods:** An electronic questionnaire was developed in collaboration between the Norwegian Patient's Endometriosis Society (NPES) and gynecologists with special interest in endometriosis and adenomyosis. The questionnaire was distributed digitally to the members of NPES in May 2021.

**Results:** 938 participants answered the questionnaire. Better patient information, long term therapeutic plans and integration of their partners into their care were the main concerns. Multidisciplinary care was a key issue for the majority, with (n = 775) 89% stating a need for a consultation with a psychologist, (n = 744) 86% at least one consultation with a nutritionist, (n = 733) 85% a physiotherapist, and (n = 676) 78% needing a sex therapist and (n = 935) 99,7% consider research and (n = 934) 99,8% consider quality assurance initiated by the endometriosis center to be important. The qualitative analysis of free text answers revealed a great need for updated and easily accessible



information, meeting competent health care professionals and being taken seriously/listened to.

**Conclusions:** This survey shows similar perceptions and a high level of agreement regarding their needs amongst people with endometriosis and/or adenomyosis. This survey supports recommendations by the experts that endometriosis/adenomyosis care should be centralized in specialized, multidisciplinary centers. The results of the present work will be valuable for the future planning and development of a multidisciplinary endometriosis center.

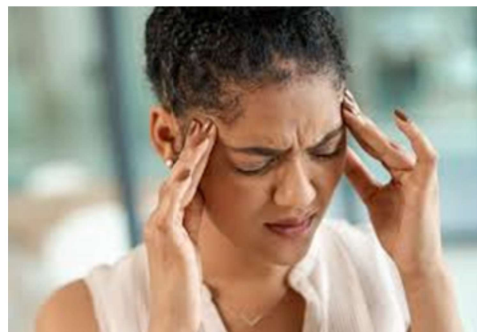
**Keywords:** Adenomyosis; Centralized endometriosis center; Endometriosis; Multidisciplinary care; Patient-centeredness; Quality of care; Women's health.

## 4 Sex hormone-related polymorphisms in endometriosis and migraine: A narrative review

Joy-Fleur van der Vaart et al. *Womens Health (Lond)*. 2022 Jan-Dec.

### Abstract

Some evidence indicates endometriosis and migraine have a common genetic predisposition in sex-hormone genes, which could have important implications for the treatment of these two heterogenous conditions. To date, the genes responsibility remains unknown. Based on the biological hypothesis that polymorphisms of genes involved in sex-hormone pathways may influence estrogen levels and phenotypes of both disorders, we did a literature search for candidate sex-hormone genes and genes involved in the metabolism of estradiol. The aim was to review the evidence for shared sex-hormone-related polymorphisms between endometriosis and migraine and provide an exhaustive overview of the current literature. We included case-control studies investigating associations between candidate sex-hormone-related genes and the disorders endometriosis and migraine, respectively. Results showed three overlapping sex-hormone-associated polymorphisms in estrogen receptor genes that are associated with both conditions. To confirm possible associations with other sex-hormone genes, larger studies are needed.



**Keywords:** endometriosis; migraine; polymorphism; sex hormone genes; sex hormone receptor.

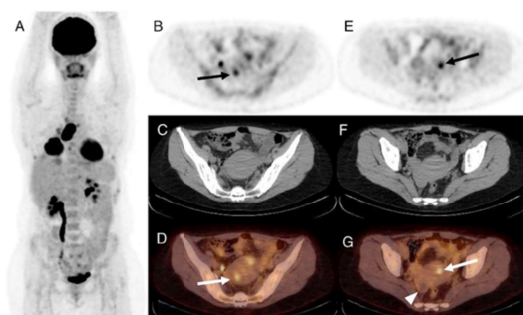
## 5 Interference of Known or Suspected Endometriosis in Reporting FDG PET/CT Performed in Another Indication

Sona Balogova et al. *Clin Nucl Med*. 2022.

### Abstract

**Introduction:** Endometriosis is a common gynecologic condition that may be visualized on 18F-FDG PET/CT and mimic lesions of malignancy. We analyzed the interference of known or suspected endometriosis in reporting 18F-FDG PET/CT performed in another indication.

**Results:** The PET/CT images of 18 women with known (n = 15) or suspected (n = 3) endometriosis were analyzed. Based on clinical follow-up and results of other imaging, biopsy, and/or postsurgical histology, the presence of lesions of endometriosis at the time of 18F-FDG PET/CT was confirmed in 13 of 18 patients (72%). The per-patient positivity rate of 18F-FDG PET/CT was 8/18 (44%; 95% confidence interval, 22%-69%). The patient-based detection rate of 18F-FDG PET/CT in patients with confirmed lesions of endometriosis was 8/13 (62%; confidence interval, 32%-86%). On per-lesion/site basis, 18F-FDG PET/CT detected 11 of 20 sites (55%) of endometriosis. The SUVmax of these lesions/sites ranged between 1.8 and 5.3 (median, 3.8). In 9 of 18 patients (50%), a total of 13 non-endometriosis-related lesions/sites were detected by 18F-FDG PET/CT; their SUVmax ranged between 2.7 and 23 (median, 9.4).



**Conclusion:** The interference of known or suspected endometriosis in reporting 18F-FDG PET/CT performed in another indication was limited but possible and should be kept in mind, even in postmenopausal women, as the oldest patient with 18F-FDG-positive endometriosis was aged 63 years. The lesions of endometriosis showed inconstant 18F-FDG uptake with overlap of SUVmax with low-grade malignancies. In our series, the greatest SUVmax value of lesion of endometriosis was 5.3, somewhat higher than the threshold of 4 previously proposed for identification of malignant transformation of endometriosis.



# 6 Environmental Exposure to Non-Persistent Endocrine Disrupting Chemicals and Endometriosis: A Systematic Review

Wieczorek K, Szczesna D, Jurewicz J. *Int J Environ Res Public Health*. 2022 May 5;19(9):5608.

## Abstract

Endometriosis is a disease characterized by the presence of the uterine endometrium outside of its normal location. As the etiology of endometriosis is not well known and hormonal imbalance is central to disease pathogenesis, the potential contribution of exposure to endocrine-disrupting chemicals (EDCs) has been hypothesized in endometriosis. A systematic search of the literature was carried out to identify relevant studies using: PubMed, Scopus, Elsevier, Springer; EBSCO, and Web of Science. A total of 22 studies were considered. Most of the studies reviewed in this paper showed an association between exposure to BPA and phthalates and endometriosis. In the case of phthalate exposure, the reviewed studies found an association between the concentration of at least one phthalate metabolite and endometriosis. Only one study was performed to assess the exposure to parabens and a significant relationship with endometriosis was found. Additionally, only one study assessed the relationship of non-persistent pesticide exposure with endometriosis, observing a significant association between endometriosis and the urinary concentration of diazinon, chlorpyrifos, and chlorpyrifos-methyl. Studies struggled to provide a conclusion on the effect of exposure to benzophenones on endometriosis. Despite the numerous limitations of the results, the reviewed studies suggest that exposure to non-persistent endocrine disruptors, especially bisphenol A and phthalates may affect



endometriosis. The results of the studies on exposure to parabens, benzophenones, and non-persistent insecticides are inconclusive.

**Keywords:** benzophenones; bisphenol A; endometriosis; environmental exposure; non-persistent endocrine-disrupting chemicals; parabens; phthalates.

**Conclusion:** The interference of known or suspected endometriosis in reporting 18F-FDG PET/CT performed in another indication was limited but possible and should be kept in mind, even in postmenopausal women, as the oldest patient with 18F-FDG-positive endometriosis was aged 63 years. The lesions of endometriosis showed inconstant 18F-FDG uptake with overlap of SUVmax with low-grade malignancies. In our series, the greatest SUVmax value of lesion of endometriosis was 5.3, somewhat higher than the threshold of 4 previously proposed for identification of malignant transformation of endometriosis.

## B NEWS FROM OUR SOCIETY PAST ACTIVITIES

On the 11<sup>th</sup> of August, **Prof. Engin Oral, MD.** moderated our journal meeting where we discussed the papers “**A Practical Approach to Fertility Considerations in Endometriosis Surgery**” and “**A Practical Approach to Fertility Considerations in Endometriosis Surgery**” presented by **Assoc. Prof. Kubra Boynukalin, MD.** and **Sule Yildiz, MD.,** respectively.

**ENDO/ADENO  
MAKALE SAATI**

**PROF. DR. ENGIN ORAL**  
Moderatör

**DOÇ. DR. KÜBRA  
BOYNUKALIN**  
A Practical Approach to  
Fertility Considerations in  
Endometriosis Surgery

**DR. ŞULE  
YILDIZ**  
Endometriosis and oocyte  
quality: an analysis of 13 614  
donor oocyte recipient and  
autologous IVF cycles

**11 Ağustos Perşembe**  
**21:00 -22:00**

[https://us06web.zoom.us/j/87183978152?  
pwd=cFVUM3hMcjRURUeEpkZFlhWVhHptdz09](https://us06web.zoom.us/j/87183978152?pwd=cFVUM3hMcjRURUeEpkZFlhWVhHptdz09)

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On the 8<sup>th</sup> of September, **Prof. Ahmet Kale, MD** moderated our journal meeting where **Assoc. Prof. Yusuf Aytac Tohma, MD.** presented the paper “**Abdominal Wall Endometriosis**” and **Karolin Ohanoğlu, MD.** presented “**The Effect of Laparoscopic Endometrioma Surgery on Anti-Müllerian Hormone: A systematic Review of the Literature and Meta-Analysis**”

**ENDO/ADENO  
MAKALE SAATI**

**PROF. DR. AHMET KALE**  
Moderatör

**DR. KAROLİN  
OHANOĞLU**  
The Effect of Laparoscopic  
Endometrioma Surgery on  
Anti-Müllerian Hormone: A  
Systematic Review of the  
Literature and Meta-Analysis

**DOÇ. DR. YUSUF  
AYTAÇ TOHMA**  
Abdominal Wall Endometriosis

**8 Eylül Perşembe**  
**21:00 -22:00**

[https://us06web.zoom.us/j/84271211712?  
pwd=Ymo1ZlV2UThLVlRBR3Z0dmkCaE1lZz09](https://us06web.zoom.us/j/84271211712?pwd=Ymo1ZlV2UThLVlRBR3Z0dmkCaE1lZz09)

[www.endometriozisdernegi.org](http://www.endometriozisdernegi.org)

**15<sup>th</sup> EndoAcademy Meeting** took place in Edirne on the **18<sup>th</sup> of September**. The meeting was chaired by **Prof. Ahmet Kale, MD.** and **Prof. Koray Elter, MD.** At this meeting diagnosis, medical and surgical treatment of endometriosis with a focus on endometrioma, infertility and pelvic pain were discussed. Many physicians interested in endometriosis from Edirne and from the region participated in the meeting where they listened to experts in the field.



**13. yıl**  
2009-2022

ENDOMETRİOZİS  
AKADEMİSİ  
DERNEĞİ  
2009

**XV. EndoAkademi  
ENDOMETRİOMA**  
**18 EYLÜL 2022 - EDİRNE**

Trakya Üniversitesi Devlet Konservatuvarı  
Sanat Eğitim ve Gösteri Merkezi Salonu  
Balkan Yerleşkesi /Edirne

**Kurs Başkanları**  
Prof. Dr. Koray Elter  
Prof. Dr. Ahmet Kale

**BİLİMSEL PROGRAM**

Organizasyon Sekreteriyası  
**global**  
organizasyon

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Trakya University  
Edirne University  
Edirne University

ENDOMETRİOZİS & ADENOMYOZİS DERNEĞİ  
**XV. EndoAkademi ENDOMETRİOMA**  
**18 EYLÜL 2022, PAZAR**



**BİLİMSEL PROGRAM**

- 08:45 - 09:00 **Açılış Konuşmaları**  
*Prof. Dr. Ümit İnceboz, Prof. Dr. Koray Elter, Prof. Dr. Erhan Tabakoğlu*
- 1. Oturum Endometrioma Her Yaşta**  
Oturum Başkanları: *Prof.Dr.Bülent Demir, Doç.Dr. Baki Şentürk*
- 09:00 - 09:30 Endometriozis Tanısında Görüntüleme  
*Prof. Dr. Taner Usta*
- 09:30 - 09:50 Adölesanlarda Endometriomanın Klinik Yönetimini Nasıl Yapalım?  
*Prof. Dr. Koray Elter*
- 09:50 - 10:10 Reprodüktif Dönemde Endometrioma Yönetimi Nasıl Olmalıdır ?  
*Prof. Dr. Ümit İnceboz*
- 10:10 - 10:30 Peri ve Postmenopozal Dönemde Endometrioma Yönetimi Nasıl Olmalıdır?  
*Prof. Dr. Servet Hacivelioglu*
- 10:30 - 10:50 Tartışma
- 10:50 - 11:10 Kahve Arası**
- 2. Oturum Endometrioma ve Önemli Klinik Durumlar**  
Oturum Başkanları: *Prof. Dr. Çetin Çam, Doç. Dr. Nihal Dolgun Altıntaş*
- 11:10 - 11:30 Endometrioma ve Adenomyozis Birlikteliği  
*Doç. Dr. Cihan Kaya*
- 11:30 - 11:50 Endometrioma ve Derin İnfiltratif Endometriozis  
*Prof. Dr. Ahmet Kale*
- 11:50 - 12:10 Endometrioma ve İnfertilite  
*Prof. Dr. Engin Oral*
- 12:10 - 12:30 Endometrioma ve Ağrı  
*Doç. Dr. Yusuf Aytaç Tohma*
- 12:30 - 12:45 Tartışma
- 12:45 - 14:00 Endometriozis ve Adenomyozisin Olgularının Ultrasonografi ile Değerlendirilmesi / Öğle Yemeği  
*Prof. Dr. Engin Oral, Prof. Dr. Ümit İnceboz*

ENDOMETRİOZİS & ADENOMYOZİS DERNEĞİ  
**XV. EndoAkademi ENDOMETRİOMA**  
**18 EYLÜL 2022, PAZAR**



**BİLİMSEL PROGRAM**

- 3. Oturum Endometrioma Olguları - PANEL**
- 14:00 - 16:00 Dört farklı olgu yönetimi ve tedavi yaklaşımları, Panelistlerin yanı sıra katılımcılardan da sorular alınarak, interaktif olarak tartışılacaktır.  
Moderatör: *Prof. Dr. Taner Usta*  
Panelistler: *Prof. Dr. Ümit İnceboz, Prof. Dr. Ertan Adalı, Prof. Dr. Servet Hacivelioglu, Prof. Dr. Bülent Demir, Prof. Dr. Çetin Çam, Doç. Dr. Emel Kıyak Çağlayan Öğr. Gör. Dr. Sinan Ateş*
- 16:00 - 16:15 **Kapanış**  
*Prof. Dr. Ahmet Kale, Prof. Dr. Koray Elter*



### The FEMaLe Project

“Finding endometriosis using machine learning” is a project that is aiming to offer individualised diagnosis and treatment options to endometriosis patients. Earlier diagnosis of the disease and individualised risk assessment methods will be developed to increase the life quality of endometriosis patients. FEMaLe is supported by European Union and coordinated by Aarhus University.

This project is carried out by using advanced computer technologies. The project comprises;

1. A phone app for endometriosis patients
2. 3 different endometriosis diagnosis devices (For general practitioners, obstetrician and gynaecologists and radiologists)
3. A software that is expected to guide surgeons during endometriosis surgery

This project is expected to lower treatment costs by 30%. Our founding president and executive board member Prof. Engin Oral, MD. is selected to the advisory board of this project. We, as the Turkish Endometriosis and Adenomyosis Society, are very happy to be a part of this project.



## C NEWS FROM THE WORLD OF ENDOMETRIOSIS

### EEL WEBINAR Program 2022

European Endometriosis League (EEL) is continuing with the Webinars in 2022. September's webinar was moderated by **Prof. Taner Usta, MD.**, where **Roberto Clarizia, MD.** from Italy talked about **“Endometriosis of the diaphragm, diagnosis and treatment”**.

The poster features a circular portrait of Roberto Clarizia, MD. PhD., in a white lab coat. The background is dark blue with a glowing blue anatomical illustration of the diaphragm. The text is white and centered.

**EEL WEBINARS**

Roberto Clarizia, MD. PhD.  
Negrar, Italy

**ENDOMETRIOSIS OF THE  
DIAPHRAGM  
DIAGNOSIS AND TREATMENT**

Moderator: Taner Usta, MD  
Istanbul, Turkey

📅 DATE : 13 SEP 2022  
🕒 TIME: 7.00 PM CET

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## ESGE 2022

Between 2<sup>nd</sup> and 5<sup>th</sup> of October The European Society of Gynaecological Endoscopy's 31<sup>st</sup> Annual congress was held in Lisboa, Portugal. One of our executive board members, **Prof. Taner Usta, MD.**, joined the congress as a scientific attendee.



## Future Activities

Kartal City Hospital will host the 1st Kartal Dr. Lutfi Kirdar Obstetrics and Gynaecology Days on the 13<sup>th</sup> and 14<sup>th</sup> of January 2023. You can find the details in the link below.

<https://www.endometriozisdernegi.org/1-kartal-lutfi-kirdar-kadin-dogum-gunleri-13-14-ocak-2023/>

**ENDOMETRİOZİS & ADENOMYOZİS DERNEĞİ 2009**

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Prof. Dr. TANER USTA

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## Future Activities

The European Society of Gynaecological Endoscopy's regional meeting is planned to take place in Taksim Sofitel Hotel, Istanbul, Turkey. The meeting will be chaired by **Prof. Ertan Saridoğan, MD. and Prof. Taner Usta, MD.**

The poster is a vertical rectangular graphic with a dark blue background. At the top, there are two logos: the ESGE logo (European Society for Management of Endometriosis) and a logo for the 14th year of the Endometriosis & Adenomyosis Society of Turkey (2009-2023). The main title 'ESGE' is written in large, bold, yellow letters. Below it, 'REGIONAL WORKSHOP' is written in white, and 'Sofitel Taksim Hotel, Istanbul - Türkiye' is written in white. A yellow banner contains the text 'STEP BY STEP MANAGEMENT OF WOMEN WITH ENDOMETRIOSIS FROM DIAGNOSIS TO THERAPY: A PRACTICAL APPROACH'. Below this, the course directors are listed: 'COURSE DIRECTORS: ERTAN SARIDOĞAN, TANER USTA'. The dates '10-11 MARCH 2023' are displayed in large white font. The background features a photograph of the Galata Tower in Istanbul, illuminated at night. At the bottom, there are three columns of contact information for the Scientific Secretariat, Scientific Secretaries, and Organization Secretariat, along with the Global Congress logo and the website 'www.esgeendoturkey.org'.

**ESGE**  
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**STEP BY STEP MANAGEMENT OF WOMEN WITH ENDOMETRIOSIS  
FROM DIAGNOSIS TO THERAPY: A PRACTICAL APPROACH**

**COURSE DIRECTORS:**  
ERTAN SARIDOĞAN  
TANER USTA

**10-11  
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## D INTERVIEW WITH AN 'ENDO SPECIALIST'



**Shannon Cohn**

Interviewer: Cihan Kaya

**Turkish Endometriosis & Adenomyosis Society (EAS):** Dear Shannon Cohn, first of all as Endometriosis and Adenomyosis Society we would like to thank you for taking time from your busy schedule and answering our questions. We thank you also for the documentary, **BELOW THE BELT**.

**Shannon Cohn:** Thanks!

**EAS:** Where did the name **BELOW THE BELT** come from and when and why did such an idea of documentary come up?

**SC:** **BELOW THE BELT** has two meanings. First meaning is that primarily (but not always) endometriosis is present "under the belt". Second meaning is that when someone hits somebody under the belt, it means struggling with them unfairly which is also true for endometriosis patients, as seen in the long delay of diagnosis and effective treatment.

**EAS:** What exactly is the documentary **BELOW THE BELT** about and can you mention about the characters in the documentary?

**SC:** **BELOW THE BELT** reveals common issues in our healthcare system that disproportionately affect women through the personal and inspiring stories of four women who seek immediate answers to mysterious symptoms. Through the lens of endometriosis, a disease that affects one in every nine women, the film shows how women are often excluded, belittled, and disbelieved. During the 10 years before women receive a final diagnosis of endometriosis, women are often told that the symptoms are part of being a woman or that these symptoms are in their minds. Because of the outdated concepts they are usually treated with a series of ineffective drugs and operations. Pregnancy and/or hysterectomy are falsely proposed as treatment options. Approximately 50% of infertility cases are due to endometriosis and almost all are preventable. From social taboos and gender bias to misinformed doctors and financial barriers to care, **BELOW THE BELT** sheds light on how millions are effectively silenced and how they can improve health care services for all women by struggling with them.

**EAS:** Were there any famous names who gave support to this project?

**SC:** Executive producers Hillary Rodham Clinton, former US minister of foreign affairs and First Lady; additionally, actresses Rosario Dawson, Corinne Foxx and Mae Whitman.

**EAS:** What does endometriosis mean to you?

**SC:** Endometriosis is very personal for me because I have had symptoms since I was 16 years old. I have seen many doctors during this time period and I have had many surgeries and tried several drugs to relieve the symptoms. But still, I have not heard of the word endometriosis until I was 29. Beyond this, I have 2 daughters having a 7-fold increased risk of endometriosis. They are the driving force behind this film because I was inspired by them to change the narrative and the disease and also to make the movie.

**EAS:** We know that the awareness of endometriosis is not very common in the society and among the healthcare professionals. What do you think about the role of films, documentaries and social media in improving the awareness of endometriosis?

**SC:** Documentaries tell us socially important stories. They reveal hidden truths, touch our feelings and take action for a change. **Below the belt** follows this model with a target of changing the hearts and minds and depending on that changing the policy.

**EAS:** Will this documentary meet with the audiences other than the US and England? We think that there will be many people interested in Turkey.

**SC:** Yes, there will be virtual viewings in different regions of the world. Moreover, we follow opportunities of digital streaming and television broadcasting worldwide. We are also open to a face-to-face survey in Turkey to give patients, service providers and lawmakers the opportunity to come together to establish a constructive dialogue and make a difference.

**EAS:** As a last note, do you have a new project other than BELOW THE BELT to raise awareness on endometriosis?

**SC:** There is also an instructive film called Endo What? ([www.EndoWhat.com](http://www.EndoWhat.com)) and we focused on distributing both of the films next year to create the best possible effect in mainstream and medical societies.

**EAS:** As the Turkish Endometriosis and Adenomyosis Society, we thank you again for allocating time to contribute to our bulletin. We will also be happy to get involved in projects related to endometriosis in the future.

**SC:** Thank you for including the films and these questions.

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

### 1. The therapeutic effects of coenzyme Q10 on surgically induced endometriosis in Sprague Dawley rats.

Akarca-Dizakar SÖ, Demirel MA, Coşkun Akçay N, Sipahi M, Karakoç Sökmensüer L, Boyunaga H, Köylü A, Ömeroğlu S. J Obstet Gynaecol. 2022 Sep 1:1-9. doi: 10.1080/01443615.2022.2114322. Online ahead of print.

#### Abstract

The aim of this study was to evaluate the effects of coenzyme Q10 in the treatment of endometriosis rat models. Twenty seven Sprague Dawley rats were divided into four groups; Control Group (n = 7; Endometriosis group), Reference Group (n = 6; Endometriosis + Buserelin acetate, 20 mg/kg), CoQ10 Group-I (n = 7; Endometriosis + CoQ10, 50 mg/kg) and CoQ10 Group-II (n = 7; Endometriosis + CoQ10, 100 mg/kg). At the end of the experiment, all the rats were sacrificed, and the volume and histoarchitecture of endometrial implants were evaluated. The mast cells were determined by Toluidine blue and collagen fiber density was analysed by Masson's Trichrome staining. Tumour necrosis factor and vascular endothelial growth factor (VEGF) levels were analysed by enzyme-linked immunosorbent assay in peritoneal fluid and VEGF and matrix metalloproteinase-9 (MMP-9) were evaluated by immunohistochemistry. Terminal deoxynucleotidil transferase-mediated dUTP Nick end labelling (TUNEL) was also used for the detection of apoptotic cells. The CoQ10 treatment significantly decreased the volume of endometriotic implants, VEGF, and MMP-9 immunoreactivity and increased TUNEL-positive cells. The findings of the study suggest that CoQ10 can be used in endometriosis treatment by suppressing the endometriotic implants. **IMPACT STATEMENT** What is already known on this subject? Endometriosis is a gynaecological disorder and previous studies have shown that different treatments with antioxidants cause significant regression in the endometriotic implants. What the results of this study add? In this study, CoQ10 reduced intra-abdominal adhesion scores and volume of the endometriotic implants. In addition, CoQ10 treatment affected mast cell, TNF- $\alpha$ , VEGF, and MMP-9. What of these findings for clinical practice and/or further research? CoQ10 treatments may be possible to apply, it can contribute to science in terms of a new therapeutic treatment for endometriosis. Further studies are required to evaluate the Coenzyme Q10's effects on pain and subfertility in endometriosis.

### 2. The ultrasonography, colour Doppler ultrasonography and sonoelastography findings of scar endometriosis in comparison with menstrual phases.

Balaban M, Cilengir AH, Idilman IS. J Obstet Gynaecol. 2022 Aug 12:1-6. doi: 10.1080/01443615.2022.2109411. Online ahead of print.

#### Abstract

We aimed to evaluate ultrasonography (US), colour Doppler US (CDUS) and sonoelastography (SEL) findings of histopathologically proven abdominal wall scar endometriosis in comparison with menstrual phases. A total of 24 female patients with scar endometriosis were included. Lesion size, volume, echogenicity, solid/cystic or complex appearance, contour and location on US, vascularisation on CDUS, and elasticity on SEL were recorded in both menstrual and ovulatory phases. Hypoechoic heterogeneous lesions with increased peripheral echogenicity were observed in all lesions. The mean  $\pm$  standard deviation (SD) volume of the lesions in the menstrual and ovulatory phases of the lesions was  $4.36 \pm 3.01$  cm<sup>3</sup> and  $4.63 \pm 7.61$  cm<sup>3</sup> (p = .316). The mean  $\pm$  SD resistive index values on CDUS in the menstrual and ovulatory phases were  $0.96 \pm 0.09$  and  $0.97 \pm 0.07$ , respectively (p = .667). The SEL examination demonstrated a hard coding pattern in all cases with no statistically significant difference between menstrual and ovulatory phases (p = .176). We found no significant difference in terms of US, CDUS and SEL findings of scar endometriosis in comparison with menstrual phases which suggests there is no need to evaluate the patient in a specific menstrual phase.

**Impact Statement** **What is already known on this subject?** Scar endometriosis is the endometriosis located at the abdominal wall around the scar area with a very rare incidence. The typical sonographic findings of scar endometriosis are a hypoechoic solid mass with irregular contours. High resistive index on colour Doppler ultrasonography (CDUS) and hard coding pattern on sonoelastography (SEL) are seen in the lesion. **What do the results of this study add?** This is the first study that evaluates sonographic features of scar endometriosis lesions in the menstrual phase. We found that scar endometriosis lesions did not have a significant difference in terms of B-mode US, CDUS and SEL in menstrual and ovulatory phases. **What are the implications of these findings for clinical practice and/or further research?** Our findings suggest that there is no need to evaluate the patient in a specific menstrual phase.

### 3. Effect of Antioxidant Supplementation on Endometriosis-Related Pain: A Systematic Review.

Sukan B, Akdevelioğlu Y, Sukan VN. Curr Nutr Rep. 2022 Aug 11. doi: 10.1007/s13668-022-00432-1. Online ahead of print.

#### Abstract

**Purpose of review:** This study was conducted to determine the effects of antioxidant supplementation on endometriosis-related chronic pelvic pain, dysmenorrhea, and dyspareunia.

**Methods:** PubMed/MEDLINE, Scopus, and Cochrane Library databases and the Google Scholar search engine were searched from early 2012 to 2022 using appropriate keywords for clinical trials receiving antioxidant supplements and reporting endometriosis-related pelvic pain (PROSPERO registration number CRD42022318924). The qualities of the included studies were evaluated using the Joanna Briggs Institute (JBI) Checklists Critical Appraisal Tools and the National Institutes of Health (NIH) quality assessment tool for before-after (Pre-Post) study with no control group. This systematic review was reported according to the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) guideline.

**Results:** In this systematic review, 8 studies (5 RCTs and 3 non-comparative trials) published in 2012-2022 were included.

**Conclusions:** The studies we included showed promising results in the use of antioxidants in endometriosis-related pain. However, many scientific studies are needed for clear statements.

#### 4. May endocan be a new biomarker in the diagnosis of endometriosis?

Senocak GNC, Yapca OE, Yilmaz EPT, Ozturk N, Ozdes S, Kumtepe Y. *J Gynecol Obstet Hum Reprod.* 2022 Sep;51(7):102423. doi: 10.1016/j.jogoh.2022.102423.

##### Abstract

**Aim:** As known, inflammatory substances are considered to have a role in the onset and progression of endometriosis. In this study, we aimed to find a biomarker that can be used in the diagnosis of endometriosis by investigating the serum levels of endocan, which is a substance that we know to have an important role in angiogenesis and inflammation, in patients with endometriosis.

**Study design:** 45 patients between the ages of 18-40 with the diagnosis of stage 3-4 endometriosis and whose postoperative histopathological tissue diagnoses were endometriosis were included in the study as study group. As the control group, a total of 45 healthy women between the ages of 18-40 were included in the study. The two groups were statistically compared.

**Results:** There was no statistically significant difference between the two groups in terms of age, BMI, LH, E2, and mean Hb values. It was observed in the examination of the endocan levels that the mean values in the study (endometriosis, patient group) group were statistically and significantly higher compared to the control (healthy) group ( $p:0.000$ ). Also, mean FSH and Ca125 levels were determined to be statistically and significantly higher in the endometriosis group ( $p:0.042$  and  $p:0.000$ ).

**Conclusion:** In this study, we found a statistically significant correlation between the levels of serum endocan and endometriosis. As the results, endocan can be used as a new biomarker to diagnose patients with endometriosis or in their follow up period. Much more comprehensive future studies are needed on this subject.

#### 5. Comparison of Isolated Sciatic Nerve and Sacral Nerve Root Endometriosis: A Review of the Literature.

Kale A, Baydili KNS, Keles E, Gundogdu E, Usta T, Oral E. *J Minim Invasive Gynecol.* 2022 Aug;29(8):943-951. doi: 10.1016/j.jmig.2022.05.017.

##### Abstract

**Objective:** This review aimed to compare isolated sciatic and sacral nerve root endometriosis in terms of anatomic distribution, patients' symptoms and history, diagnostics, treatments, and outcomes.

**Data source:** We searched PubMed, MEDLINE, Web of Science, and Embase from inception to October 2021 using a combination of keywords including "sciatic nerve endometriosis," "sacral nerve root endometriosis," and associated Medical Subject Headings. Relevant publications and references were also checked for further articles.

**Methods of study selection:** Two independent researchers performed the study selection. We included all original research articles, case reports, and case series in English that reported on the isolated sciatic nerve and sacral nerve root endometriosis.

Tabulation, integration, and results: The initial search identified 92 articles, and 40 articles, mostly case reports and case series, were included. The review included 362 patients: with 256 and 106 patients in the sacral and the sciatic groups, respectively. In both groups, most patients had right-sided endometriosis. In the sciatic group, most of the patients presented with foot drop, leg motor weakness, and sciatic dermatome hypoesthesia. The frequencies of all these symptoms were significantly higher in the sciatic group (all  $p < .001$ ). By contrast, in the sacral group, most of patients presented with pudendal neuralgia ( $p < .001$ ). Intraoperative, early, late, and 1-year postoperative complications did not differ significantly between the 2 groups.

**Conclusion:** This study indicated that isolated sciatic and sacral nerve root endometrioses were more common on the right side. Laparoscopic surgery was more commonly performed over traditional open or transgluteal surgery techniques. Sacral nerve root endometriosis is often accompanied by deep infiltrating endometriosis. Magnetic resonance imaging and myelography may be useful diagnostic tools in the preoperative workup. There was usually no significant improvement after surgery in cases of isolated sciatic nerve endometriosis presenting with foot drop.

### **6.Effects of metformin, letrozole and atorvastatin on inflammation and apoptosis in experimental peritoneal and ovarian endometriosis in the rat.**

Sapmaz T, Coskun G, Saker D, Pence HH, Keles P, Hayretdag C, Kuras S, Topkaraoglu S, Erdem E, Efendic F, Sevgin K, Tekayev M, Polat S, Sapmaz E, Irkorucu O. *Pathol Res Pract.* 2022 Jul;235:153951. doi: 10.1016/j.prp.2022.153951.

#### **Abstract**

Endometriosis is a common gynecological hurting disorder in which tissue is similar to the tissue that normally lines the inner layer of the uterus. It often causes fertility problems. Unfortunately, effective treatments are limited. Therefore it's important to explore an imperative and easily accessible treatment to alleviate the probable pathologies and preserve fertility in endometriosis. Consequently, we aimed to investigate the effects of metformin, letrozole, and atorvastatin on inflammation and apoptosis in experimentally induced ovarian and peritoneal endometriosis in rat models. In the present study, 35 rats were randomly divided into five groups. Group 1: sham-operated control group. Group 2: untreated endometriosis group. Group 3: given 100 mg/kg/day of oral metformin. Group 4: given 0.1 mg/kg/day of oral letrozole. Group 5: given 2.5 mg/kg/day of oral atorvastatin. At the end of the 28 days, we examined Ki67, Bax and Bcl-2 immunoexpressions in ovarian and peritoneal tissues, and IL-6, IL-8, and TNF- $\alpha$  levels were evaluated from the peritoneal fluid. All medical treatment groups showed a significant decrease in Ki67 expression. A significant increase in Bax expression was also observed in all samples from all medical treatment groups (other than the untreated endometriosis groups). Further, a significant decrease in Bcl-2 expression was found in all medical treatment groups. IL-6, IL-8, and TNF- $\alpha$  levels were significantly lower in all medical treatment groups than in the endometriosis groups. In conclusion; Metformin, letrozole, and atorvastatin showed apoptosis induction and anti-inflammatory effects on both ovarian and peritoneal endometriosis in experimental models.



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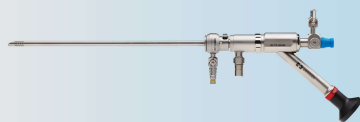
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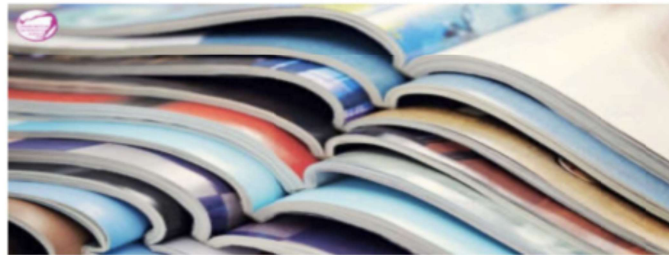
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