

TURKISH
ENDOMETRIOSIS &
ADENOMYOSIS
SOCIETY
2009

Endometriosis Bulletin

July 2017/Issue-3

Periodic pain in endometriosis may sometimes be as painful as heart attack.

Women with endometriosis may sometimes be asymptomatic in some periods of their lives.

A new-born division of science, "Neuropelvelogy", Endometriosis, Pelvic Pain and beyond...

Not too far, just three years ago, "International Society of Neuropelvelogy", pioneered by Marc Possover, is established in Switzerland in 2014.

Association between MR imaging of adenomyosis and phenotypes of endometriosis

What is the association between MR imaging of adenomyosis and phenotypes of endometriosis: peritoneal endometriosis (SUP), ovarian endometrioma (OMA), deep infiltrating endometrioma (DIE)?

6th Asian Congress of Endometriosis and 6th International Congress of Minimally Invasive Surgery

22-24 November 2017 Shiraz, Iran

* Abstract submission: July 30th, 2017
* Early bird registration: September 30th, 2017
* Abstract submission deadline: September 30th 2017

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Pain to infertility

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PREFACE

Dear Colleagues,

We are with you once again with this new issue. During the last three months, there have been many important progresses in "the world of endometriosis". The most prominent one among these was the **WES (World Endometriosis Society)** course (Course 8) organized by our society in 13th WES congress held in Vancouver, Canada. This course was attracted a great deal of attention. In the course, many authors in the field namely Prof Engin Oral, Prof Gurkan Uncu, Prof Yücel Karaman, Assoc Prof Baris Ata and also international speakers Prof Sun Wei Guo (China), Prof Marc Laufer (USA), Prof Joseph Sanfilippo (USA) have taken part. We would like to express our appreciation to all these authors.

We are continuing our preparations for the **4th European Congress on Endometriosis** that will be hosted by our Society and will be held in Antalya in 2018. We will have the opportunity to host many scientists on endometriosis. The progress on the Congress, in which there will be many extraordinary courses, can be tracked on the website (www.endometriosis2018.com).

Other important pavement for our Society and Country is that Prof Kutay Biberoglu and Prof Engin Oral have been invited to 6th Asian Endometriosis Society Congress that will be held in Iran this year.

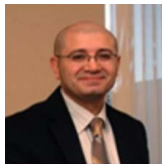
We hope to meet more and more good news and success in the next issues of our bulletin.
With Regards,

Board Members of Endometriosis&Adenomyosis Society

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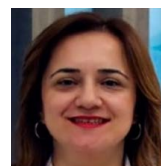
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Endometriosis e-bulletin is prepared by Turkish Endometriosis&Adenomyosis Society. If there will be subjects, which you would like to be included in the bulletin or comments/questions that you would like to add, please contact us via drtanerusta@gmail.com or drenginoral@gmail.com.

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Preparation Committee of Bulletin

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SELECTED ARTICLES

1- Redoxregulation of microRNAs in endometriosis-associatedpain

(Redox regulation of microRNAs in endometriosis-associated pain. Wright KR, Mitchell B, Santanam N. Redox Biol. 2017 Aug;12:956-966. doi: 10.1016/j.redox.2017.04.037. Epub 2017 May 4.)

Studies defined a new pathway that has affected the genes involved in inflammation via microRNAs and the genes involved in pain in endometriosis. A new drug, to decrease the oxydative stress in endometriosis, can be developed by targeting these defined microRNAs. This study “RedoxRegulation ofmicroRNAs in endometriosis-associatedpain” has beenpublished in RedoxBiyology

The research team at Joan C. Edwards School of Medicine in West Virginia University has been working on the relation of oxydative stress to the mechanisms of endometriosis associated pain for a long time. After the relationship between oxidative stress and miRNAs shown by the research team previously, it was found that oxidized low density lipoprotein (LDL) particles, known as bad cholesterol, have led to endometriosis-related pain. These LDL particles can be detected in peritoneal fluid obtained from women with endometriosis. However, it wasn't shown how the oxidized LDL triggered the pain process in the previous study.



They have suggested that miRNA levels have been decreased in tissues with lesions containing oxidized LDL.They have determined expression levels of miRNAs and their predicted nociceptive and inflammatory targets in PF and ox-LDL treated human endometrial cell-lines from patients with and without endometriosis or pain. They have compared these to endometrial cell-lines treated with various forms of oxidized-lipoproteins. In their study, they have showed similarities between microRNA regulation in peritoneal fluid from endometriotic women and the presence of oxidized LDLs in abundance in the peritoneal fluid of those women. They have claimed

that microRNAs responsible for targeting nociceptive and inflammatory molecules have been downregulated in the presence of oxidized LDLs and peritoneal fluids from women with endometriosis, thus playing a role in the etiology of endometriotic pain. These redox-sensitive miRNAs are proposed to be of potential use as targets in the treatment of endometriosis-associated pain.

2- From 13th World Endometriosis Society Congress: Oil-based or water-based contrast for hysterosalpingography in infertile women

(Oil-Based or Water-Based Contrast for Hysterosalpingography in Infertile Women. Dreyer K, van Rijswijk J, Mijatovic V, Coddijn M, et al. N Engl J Med. 2017 May 25;376(21):2043-2052. doi: 10.1056/NEJMoa1612337. Epub 2017 May 18.)



This important study was published in New England Journal of Medicine as well as presentation in **13th World Endometriosis Society Congress** and confirmed the positive effect of lipiodol on fertility. The data of H2Oil, a big, multicentral, randomized-controlled study, were presented in the congress by Prof Ben Mol from Robinson Research Institute, Adalaide, Australia. The H2Oil study was carried on by Professor Mol, Dr. Kim Dreyer, Dr. Velja Mijatovic (Amsterdam VU University, IVF Center) and research team in 27 centers in Nederland. This is a strong study consisted of 1119 women investigated by Hysterosalpingography (HSG) for infertility.

They have randomized the women for water-soluble contrast (WSCM) vs oil-based contrast (Lipiodol® Ultra-Fluid [LIPIODOL® Ultra-Fluid 480 Injection 10 mL, GUERBET) for HSG. On-going pregnancy rate was 29% in WSCM group whereas it was 40% in Lipiodol group and the difference was statistically significant. There was no complication in neither group.

LIPIODOL® Ultra-Fluid is an ethyl ester of iodized fatty acid of poppy seed. This, oil-soluble contrast medium (OSCM), has been using for many years in radiology. To remove the debris, which may compromise the tubal patency, from the fallopian tubes by flushing during HSG is known to be beneficial. The study was performed by Professor Neil Johnson (IVF specialist at Repromed-Auckland and Robinson Research Institute and the president-Elect of World Endometriosis Society)

Since 1999, it has been shown that LIPIODOL® Ultra-Fluid had positive effect on fertility. Before H2Oil study, in small studies (3 studies including 382 women) have revealed this effect previously.

Professor Ben Mol, leader of the Dutch study team, says "This means that for every ten women undergoing an HSG to test

their fallopian tubes, if Lipiodol® is used for that test, there will be one more pregnancy six months later and, consequently, one more baby nine months after that". He also added that coincidentally he was also a "lipiodol-baby" from the 1960s (when Lipiodol® Ultra-Fluid used to be used for the standard diagnostic test of tubal patency). If we move to the use of Lipiodol® Ultra-Fluid for routine diagnostic tubal patency testing, more women will have a successful fertility outcome and will avoid the need for other expensive fertility treatments such as IVF. I believe that is justifiable at this point. Whether Lipiodol® Ultra-Fluid is working through improving the environment where eggs are growing, the endometrial environment where the embryo is implanting, or simply, as we have always believed, through flushing the fallopian tubes, Lipiodol® Ultra-Fluid is a cost effective intervention that significantly improves a woman's fertility. He went on to say "Professional bodies responsible for guidelines, as well as funders of health care should consider recommending this intervention to infertile couples in good time before IVF is started. Of course, in our study a HSG also indicated the 2-3% with blocked tubes that benefit from direct IVF. Lipiodol® Ultra-Fluid has been offered as a

treatment for infertility in New Zealand for more than a decade. It appears to be safe, the procedure is minimally-invasive and well tolerated by women, and has proved a popular alternative to more expensive and invasive fertility treatments. Several hundred New Zealand babies have been born now thanks to Lipiodol®. The good news for women with endometriosis is that Lipiodol® Ultra-Fluid was identified as the innovative treatment with the most promising results six years ago in the World Endometriosis Society's consensus meeting at the time of the 11th World Congress in Montpellier in 2011. This promise has been borne out, as it appears from our New Zealand studies that the use of Lipiodol® Ultra-Fluid is associated with a profound fertility improvement around four-fold for women with endometriosis. This new study from our Dutch colleagues confirms beyond doubt the fertility value of Lipiodol® Ultra-Fluid".

3- For Some Women, Endometriosis Period Pains Can Be as Painful as a Heart Attack

(For Some Women, Endometriosis Period Pains Can Be as Painful as a Heart Attack. Endometriosis News).

At some point in their lives, most women with endometriosis will think that their period pains are not as bad as they say, that it's a normal part of being a woman. But for some women, the pain is so intense and debilitating that it can feel as bad as suffering a heart attack. According to a report of University College London Professor of Reproductive Health, John Guillebaud, explains that many doctors have historically been unsympathetic to women's painful period complaints, offering limited advice on how to treat the problem.



It's estimated that 10 percent of women in their reproductive years suffer from endometriosis, many of whom have not been formally diagnosed. It will take many years of unnecessary suffering before they get the answers they need. More awareness of endometriosis is needed, particularly for young girls and women who have never heard of the disease and are unaware that it could be the cause of their painful periods. Sadly, endometriosis is notoriously difficult to diagnose and often takes a surgical procedure to establish if a woman has the condition. Research is needed to find less invasive diagnostic techniques and more effective treatments.

Anxiety and Depression in Endometriosis Patients are Factors Affecting Quality of Life, a Review

Anxiety and depression in patients with endometriosis: impact and management challenges. Laganà AS, La Rosa VL, Rapisarda AMC, Valenti G, Sapia F, Chiofalo B, et.al. Int J Womens Health. 2017 May 16;9:323-330. doi: 10.2147/IJWH.S119729. eCollection 2017.



According to the article published in the International Journal of Women's Health, in women with endometriosis, risk of developing anxiety, depression and other psychological symptoms are higher. In addition, these factors also negatively affects efficiency of treatment. The authors of the study, "Anxiety and Depression in patients with endometriosis; Impact and management challenges " emphasized the importance of defining psychiatric symptoms in these patients. These factors not only affect the quality of life of women, but also the progress of illness. Anxiety and depression are commonly seen conditions in endometriosis and this relation have been shown in many previous studies. Incidence of these symptoms seen in patients with endometriosis is higher than those with other gynecological disorders.

Women with endometriosis often complain of chronic pelvic pain. Impact of the pain on the quality of life and spiritual well-being has been emphasized in many research. However, anxiety and major depression may decrease women's tolerance to pain or general physical stimuli and change the way women perceive their pain.

These results refers to a vicious cycle between chronic pelvic pain and psychological disturbances, however processes are still uncertain. Studies indicated additional data is needed to identify the association between psychiatric symptoms and the pain perception. Not many studies mention the effect of psychological factors on endometriosis treatment. Hormonal therapies like GnRH analogs, decrease endometriosis symptoms but may be related with anxiety and depression. Additional treatment may be needed to reduce these symptoms.

The link between endometriosis and psychological disturbances is still unknown and it is therefore

difficult to manage symptoms. However, these are important symptoms that should not be overlooked, because they can have a great impact on the lives of women. Researchers said " We had the chance to emphasize the importance of a multidisciplinary approach in endometriosis patients " and suggested a psychological evaluation to identify patients at risk of developing anxiety and depression.

5- Relationship between the magnetic resonance imaging appearance of adenomyosis and endometriosis phenotypes

(Relationship between the magnetic resonance imaging appearance of adenomyosis and endometriosis phenotypes. Chapron C, Tosti C, Marcellin L, Bourdon M, Lafay-Pillet MC, Millischer AE et.al. Human Reproduction 2017 May 16:1-9. doi: 10.1093/humrep/dex088. [Epub ahead of print])

Study Question: What is the relationship between endometriosis phenotypes superficial peritoneal endometriosis (SUP), ovarian endometrioma (OMA), deep infiltrating endometriosis (DIE) and the adenomyosis appearance by magnetic resonance imaging (MRI)?

Summary Answer: Focal adenomyosis located in the outer myometrium (FAOM) was observed more frequently in women with endometriosis, and was significantly associated with the DIE phenotype.

What Is Known Already: An association between endometriosis and adenomyosis has been reported previously, although data regarding the association between MRI appearance of adenomyosis and the endometriosis phenotype are currently still lacking.

MRI: Three criteria were assessed on T2-weighted acquisitions: (i) Maximal Junctional Zone (JZmax) thickness corresponding to a low signal intensity band of myometrium lining the the JZ and the corresponding thickness of the myometrium obtained at the same level of measurement; (ii) JZ max to myometrial thickness ratio (ratiomax) using the maximal thickness of the JZ and the corresponding thickness of the myometrium obtained at the same level of measurement; (iii) the presence of high-intensity spots within the myometrium. In this study, diffuse adenomyosis was defined by the association of the two following criteria: (i) JZmax of at least 12 mm and (ii) ratiomax > 40%. Concerning focal adenomyosis, the radiologist was asked to thoroughly define the foci location within the myometrium on axial and sagittal T2 planes. The size of the lesion (length × width) was provided systematically. Three subtypes of focal adenomyosis according to the foci location in the outer, middle and inner myometrium were previously described . By definition, in this study, we consider as focal adenomyosis only adenomyotic foci located in the outer shell of the uterus, separated from the JZ , which was kept intact and with preserved healthy muscular structures between the adenomyosis and the JZ . In this study, focal adenomyosis correspond to the sub-type II (extrinsic) according to the Kishi Classification and must be considered as focal adenomyosis located in the outer myometrium (FAOM).

Discussion: This prospective study demonstrates that, in a population of symptomatic women younger than 42 years of age, FAOM was more frequently observed in women with endometriosis than in endometriosis free women taken as controls, and was significantly associated with a DIE endometriosis phenotype. Diffuse adenomyosis is observed in one-third of the patients whether they were endometriotic patients or not. Diffuse adenomyosis failed to reach significant correlation with the endometriosis phenotypes (SUP, OMA or DIE).

The strength of this study is based on the following aspects: (i) the selection of the study population was based on strict surgical and histological criteria. Women allocated to endometriosis free group were surgically explored and presented no visual endometriosis lesions. Women in the endometriosis group had

Study Design, Size, Duration: This was an observational, cross-sectional study using data prospectively collected from non-pregnant patients who were between 18 and 42 years of age, and who underwent surgery for symptomatic benign gynecological conditions between January 2011 and December 2014. For each patient, a standardized questionnaire was completed during a face-to-face interview conducted by the surgeon during the month preceding the surgery. Only women with preoperative standardized uterine MRIs were retained for this study.

Participants/Materials, Setting, Methods: Surgery was performed on 292 patients with signed consent and available preoperative MRIs. After a thorough surgical examination of the

histologically proven endometriotic lesions; (ii) the results were analyzed according to the three endometriosis phenotypes, with a large number of DIE patients; (iii) the results were analyzed according to whether the adenomyosis was diffuse and/or focal; (iv) Relationships between diffuse adenomyosis and endometriosis were similar, irrespective of the MRI criteria used to define diffuse adenomyosis (JZmax \geq 12 or \geq 15 mm; JZmax and/or ratiomax); (v) clinical data were recorded prospectively by the surgeon during face-to-face interviews in the month prior to the surgery using a structured questionnaire; (vi) during the preoperative imaging work-up, the radiologist was informed that endometriosis and/or adenomyosis were suspected, but they were blinded to the results of the clinical findings and previous imaging examinations.

According to our results, diffuse and focal

abdomino-pelvic cavity, 237 women with histologically proven endometriosis were allocated to the endometriosis group and 55 symptomatic women without evidence of endometriosis to the endometriosis free group. The existence of diffuse or FAOM was studied in both groups and according to surgical endometriosis phenotypes (SUP, OMA and DIE).

Wider Implications Of The Findings: This study opens the door to future epidemiological, clinical and mechanistic studies aimed at better characterizing diffuse and focal adenomyosis. Further studies are necessary to adequately determine if diffuse and focal adenomyosis are two separate entities that differ in terms of pathogenesis.

adenomyosis differ in terms of their relationship with endometriosis phenotypes. FAOM is significantly associated with endometriosis and specifically with the DIE phenotype.

In conclusion, based on a population of young women who underwent surgery for benign gynecological disease, our study demonstrates that adenomyosis is a common occurrence. FAOM is more commonly seen in endometriotic patients, and it is significantly correlated with the DIE endometriosis phenotype. Diffuse adenomyosis is encountered in one-third of the population (endometriotic or not) and failed to reach significant correlation with the endometriosis phenotype. These results raise the question of whether diffuse and FAOM are two different entities.

6- Peritoneal fluid cytokines related to endometriosis in patients evaluated for infertility

Peritoneal fluid cytokines related to endometriosis in patients evaluated for infertility. Jørgensen H, Hill AS, Beste MT, Kumar MP, Chiswick E, Fedorcsak P et. al. *Fertil Steril* 2017 May;107(5):1191-1199.e2. doi: 10.1016/j.fertnstert.2017.03.013. Epub 2017 Apr 19.

Patient Characteristics The clinical characteristics and PF composition of the 94 patients are summarized in Table 1. The primary diagnosis in all patients was infertility. The average age was 32.8 years (SD, 3.4). Patients were divided into two groups according to the absence or presence of endometriosis. In 38 women, there was no visual or histological sign of endometriosis. Endometriosis was diagnosed in 56 women. The disease was classified as minimal to mild in 77% of the cases and moderate to severe in 23%. The occurrence of endometriosis-associated symptoms, including dysmenorrhea,

TABLE 1

| Characteristics | Endometriosis present (n = 56) | Endometriosis absent (n = 38) | P value |
|--------------------------|--------------------------------|-------------------------------|---------|
| Age | 32 (24–39) | 34 (27–40) | .08 |
| Reproduction | | | |
| Pregnancies | 0.4 (0–4) | 0.5 (0–2) | .65 |
| Infertility, mo | 33 (12–100) | 33 (12–100) | .96 |
| Male factor | 7 (13) | 3 (8) | .18 |
| Tubal factor | 5 (9) | 6 (16) | .31 |
| Pain symptoms | | | |
| Dysmenorrhea | 41 (73) | 24 (63) | .30 |
| Pelvic pain | 18 (32) | 12 (32) | .95 |
| Dyspareunia | 19 (34) | 18 (47) | .19 |
| Bowel symptoms | 17 (30) | 10 (26) | .67 |
| Urinary symptoms | 3 (5) | 3 (8) | .62 |
| PF aspirates | | | |
| PF volume, mL | 12.1 (0.5–50) | 11.6 (0.5–44) | .83 |
| PF cells, $\times 10^6$ | 6.0 (1–14) | 5.5 (1.5–9.9) | .16 |
| Luteal phase | 31 (55) | 23 (61) | .62 |
| Follicular phase | 25 (45) | 15 (39) | .62 |
| I/II (minimal/mild) | 43 (77) | | |
| III/IV (moderate/severe) | 13 (23) | | |

Note: Data are presented as mean (range) or proportion (%). P values represent significance of nonequivalence by independent samples t-test for continuous data and chi-square test for categorical data.

Jørgensen. Peritoneal cytokines and endometriosis. *Fertil Steril* 2017.

dyspareunia, dysuria, and bowel symptoms, was similar in women with and without endometriosis (Table 1). This was also observed when comparing the patients with minimal-to-mild to moderate-to-severe endometriosis. The age, parity, and duration of infertility were comparable. Similar proportions of women were tested during the follicular and luteal phase of the menstrual cycle. The cell count and volume of aspirated PF were not significantly different between the two groups.

Cytokines in the PF: We measured the concentration of 48 different cytokines in the undiluted PF using multiplex immunoassay. The cytokines included a variety of chemokines, growth factors, and inflammatory cytokines, and all except IL-17 and TNF- β were quantified at concentrations above the lower limit of detection. The remaining 46 cytokines were compared among women with and without endometriosis (Supplemental Table 1). The concentrations of SCGF- β (P <.001), IL-8 (P =.001), HGF

(P =.002), and MCP-1 (P =.023) were significantly increased in the PF of women with endometriosis, while IL-13 (P =.008) was decreased (Table 2). The effect of cycle phase on cytokine concentrations was examined by comparing luteal phase and follicular phase pairwise for all the cytokines, and no significant difference was found except for with SDF1, which displayed significantly increased concentration in the luteal phase. The univariate associations between cytokines and endometriosis were analyzed after separation according to cycle phase (Table 2). When only patients in the luteal phase were considered, IL-8

(P =.013), HGF (P =.010), and SCGF- β (P =.021) showed significantly increased concentrations in the infertile patients with endometriosis. In the follicular phase, IL-13 (P =.040), SCGF- β (P =.001), IP-10 (P =.003), and IL-1ra (P =.045) were significantly differently expressed between patients with and without endometriosis.

TABLE 2

| Phase and cytokine | No endometriosis | Endometriosis | P value ^a |
|--------------------|------------------------|------------------------|----------------------|
| Any | n = 38 | n = 56 | |
| IL-8 | 10.03 (7.03–15.82) | 16.07 (10.9–28.5) | .001 |
| SCGF- β | 22,260 (13,821–28,828) | 31,737 (23,741–42,207) | .001 |
| HGF | 363.7 (235.1–557.4) | 494.8 (362.4–653.7) | .002 |
| IL-13 | 8.85 (5.50–10.63) | 6.46 (3.42–9.37) | .008 |
| MCP-1 | 134.0 (105.0–170.4) | 170.1 (116.9–273.8) | .023 |
| Luteal | n = 23 | n = 31 | |
| IL-8 | 10.24 (6.49–19.02) | 16.11 (11.51–28.34) | .013 |
| HGF | 386.0 (245.8–582.1) | 521.8 (431.3–658.5) | .01 |
| SCGF- β | 23,738 (14,476–31,156) | 30,286 (23,781–41,708) | .021 |
| Follicular | n = 15 | n = 25 | |
| IL-13 | 8.44 (5.47–12.36) | 4.49 (3.26–9.67) | .04 |
| SCGF- β | 21,578 (11,117–24,067) | 34,013 (23,136–46,730) | .001 |
| IP-10 | 3,292 (2,294–3,984) | 5,198 (3,790–6,928) | .003 |
| IL-1ra | 18.49 (12.09–28.51) | 31.08 (18.68–48.35) | .045 |

Note: Data are presented as median concentrations and interquartile range.
^a Mann-Whitney U-test.

Jørgensen. Peritoneal cytokines and endometriosis. *Fertil Steril* 2017.

6- Peritoneal fluid cytokines related to endometriosis in patients evaluated for infertility

TABLE 3

Logistic regression models with endometriosis as dependant variable.

A. Univariable logistic regression

| Cycle phase | Stages compared | Variable (cytokine) | OR (CI) | P value | AUC | Sensitivity | Specificity |
|-------------|-----------------|---------------------|------------------|---------|------------------|-------------|-------------|
| All | O/All | G-CSF | 1.78 (1.03–3.05) | .038 | 0.61 (0.49–0.72) | 61 | 60 |
| | | IL-13 | 0.50 (0.30–0.85) | .01 | 0.68 (0.56–0.79) | 69 | 65 |
| | | SCGF- β | 2.02 (1.34–3.04) | .001 | 0.72 (0.61–0.83) | 77 | 58 |
| | | IL-8 | 2.45 (1.27–4.70) | .007 | 0.71 (0.61–0.82) | 80 | 58 |
| | | HGF | 2.39 (1.39–4.10) | .002 | 0.69 (0.58–0.80) | 70 | 66 |
| | | MCP-1 | 2.09 (1.12–3.87) | .02 | 0.65 (0.53–0.76) | 66 | 53 |
| Luteal | O/All | IL-8 | 2.59 (1.06–6.34) | .038 | 0.70 (0.55–0.85) | 94 | 52 |
| | | SCGF- β | 2.42 (1.11–5.25) | .026 | 0.68 (0.53–0.84) | 74 | 56 |
| | | HGF | 2.83 (1.28–6.29) | .01 | 0.71 (0.56–0.85) | 77 | 61 |
| Follicular | O/All | SCGF- β | 4.24 (1.49–12.1) | .007 | 0.82 (0.69–0.95) | 72 | 79 |

B. Multiple forward conditional logistic regression

| Cycle phase | Stage | Model | OR (CI) | P value | AUC (CI) | Sensitivity, % | Specificity, % |
|-------------|--------|------------------------------|------------------|---------|------------------|----------------|----------------|
| All | O/All | SCGF- β , IL-13, G-CSF | | | 0.81 (0.72–0.90) | 86 | 66 |
| | | SCGF- β | 2.37 (1.23–4.54) | .01 | | | |
| | | IL-13 | 0.34 (0.17–0.72) | .005 | | | |
| All | O/I-II | G-CSF | 2.23 (1.06–4.70) | .035 | 0.80 (0.70–0.90) | 83 | 66 |
| | | SCGF- β , IL-13, G-CSF | | | | | |
| | | SCGF- β | 2.04 (1.05–3.98) | .037 | | | |
| | | IL-13 | 0.37 (0.18–0.75) | .006 | | | |
| | | G-CSF | 2.14 (1.02–4.48) | .045 | | | |

Note: Only cytokines with statistically significant standardized OR are listed.

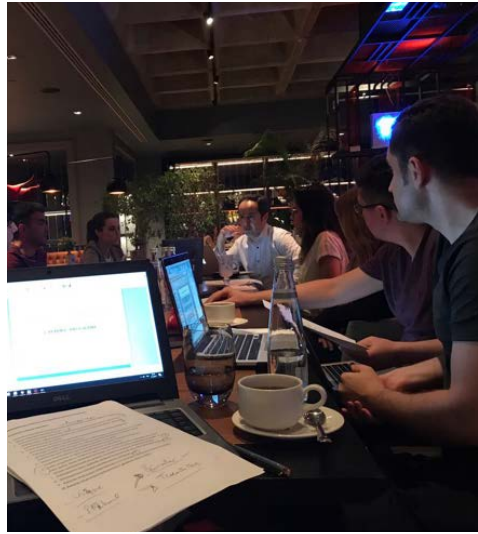
Jørgensen. Peritoneal cytokines and endometriosis. *Fertil Steril* 2017.

Univariate logistic regression was used to quantify the association between cytokine concentrations and presence of endometriosis (Table 3 , panel A). In addition, the discriminating ability of each cytokine was established by calculating sensitivity and specificity from the ROC curves. Cutoff values were chosen by the highest sum of sensitivity and specificity at a specificity $\geq 50\%$. In the complete data set, six of the cytokines (G-CSF, IL-13, SCGF- β , IL-8, HGF, and MCP-1) were significantly associated with endometriosis. SCGF- β was the only cytokine that was significantly predictive independently of cycle stage and disease severity. The best statistical correlation was obtained for SCGF- β during the follicular phase (AUC = 0.82). In the luteal phase, three cytokines (IL-8, SCGF- β , and HGF) were indicative of endometriosis, but the predictive power was low (Supplemental Fig.1). The six cytokines identified in the univariate analysis were combined in a forward conditional logistic regression analysis. A model with SCGF- β , IL-13, and G-CSF resulted in the highest predictive value, with an AUC of 0.81, a sensitivity of 86%, and a specificity of 66%. When excluding severe endometriosis, the same model had AUC = 0.80 with sensitivity of 83% and specificity of 66% (Table 3 , panel B).

NEWS FROM OUR SOCIETY

Turkey Endometriosis Research Group (TERG) Meeting (June 1,2017)

Under the leadership of our society, TERG includes young academic members from different university and training and research hospitals of our country. The group coordinated by Assoc. Prof. Ercan Bastu performed its first meeting and took the initiative for planned multicentered national and international studies.



Endometriosis and Adenomyosis Society Broadened board of management meeting (June 4, 2017)

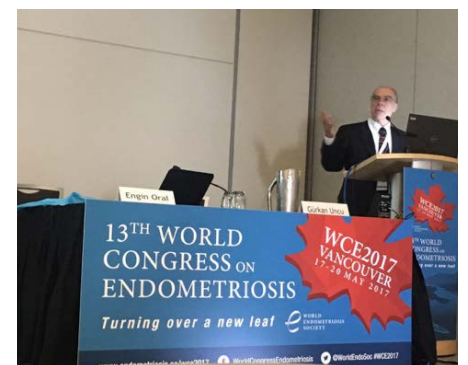
We came together both with our young colleagues and senior professors in Wyndham Grand Levent Hotel, Istanbul, in June 4,2017 to discuss the activities planned in the next term and projects for European Endometriosis Congress 2018. We performed an effective meeting with the participation of our colleagues coming from different parts of Turkey.



A course was performed by our society in 13th World Endometriosis Congress: WES, Course 8: “Endometriosis: Lifecycle Approach”

Our society as a representative of our country participated in World Endometriosis Congress in Canada and had great achievements. Our course titled as “ Endometriosis: Lifecycle Approach” was one of 8 courses performed in the **13th World Endometriosis Congress**. **Dr. Engin Oral, Dr. Yucel Karaman, Dr. Gurkan Uncu, Dr. Baris Ata** from our country, Dr. Sun Wei Guo from China and Dr. Marc Laufer, Dr. Joseph Sanfilippo from USA participated in this course as speakers. Here below you can see both the course program and the details from the link. Participants from the world showed a great interest to our course. We are very happy to share this honor with you.

<http://endometriosis.ca/wp-content/uploads/WCE2017-PCC8-Lifecycle.pdf>



Survey Report: An online survey has been sent to all participants after WCE2017. Your course was rated 93% “Excellent or Good”; a total of 15 replies were received, out of which 14 persons rated the course with “Excellent or Good”.)

New Emerging Field “Neuropelveology”; Endometriosis, Pelvic Pain and Beyond...

Not long, just 3 years ago, “International Neuropelveology Society” was founded in Switzerland in the year 2014 under the leadership of Marc Possover. The main goal for the foundation of this society is to understand the pelvic neuroanatomy better and provide the use of it either diagnosis or treatment in clinical practices. More important is being able to make investigations related to the issue. It was aimed to understand the diseases that we have not understood or understood less in clinical practices by the use of pelvic neuroanatomy knowledge. Subgroups about the subjects“ endometriosis, pelvic pain, nerve sparing surgery, pelvic organ dysfunction, spinal cord diseases ”have been established. With the great effort of Marc Possover the society started to perform first online education programs. After finishing this program participants enter a tough exam, the ones succeeded are able to pass the first level “ **Clinical Neuropelveology**” then for the second level

“**LION’s procedure and nerve-sparing surgery**” that started first time in this year was performed in Viborg Spinal Surgery Center, Vibourg, Denmark (4 LIONs procedure were performed) and then in Aarhus University, Anatomy Lab, Aarhus-Denmark cadaver dissection was performed and the participants have completed their education. The course had participants all around the world. Approximately 10 participants have completed level 1 and 2. Assoc. **Prof Taner Usta and Assoc. Prof. Ahmet Kale** from our country have become one of the first neuropelveologists by completing each of the 2 levels.



Professor Possover demonstrating how far a finger can reach on the anterior surface of the sacrum during a neuropelveological examination

(Fotografiar Scope Dergisinden alınmiştir).



Join BSGE’s Facebook page today and be part of the discussions



Make sure you review your Facebook privacy settings first.



Ahmet Kale (Turkey), Taner Usta (Turkey), Prashant Mangeshikar (India), Shaheen Khazali (UK), Soyini Howkins (US), Vito Chiantera (Italy), Jon Einarsson (US), Axel Forman (Denmark), Danny Chou (Australia), Cesar Britto (Brazil)

This training story was mentioned in the summer edition of Scope which is the journal of British Society for Gynaecological Endoscopy. We congratulate our colleagues and wish them success in this field.

NEWS FROM THE WORLD OF ENDOMETRIOSIS



6th Asian Congress of endometriosis and international congress of minimally invasive surgery

Prof Kutay Biberoglu and Prof Engin Oral will represent our Society and Country at 6th Asian Endometriosis Society Congress that will be held in Iran this year. We wish them successful meeting.

| | Chairmen | Time | Keynote Speakers | Topic | |
|-------------------------------------|--|-------------|--|--|---|
| Wednesday 22 November 2017 | Mohammad Hadi Imanieh-Sun-Wei Guo | 8:00-9:00 | Mohammad Hadi Imanieh-Sun-Wei Guo- Sean Tsai- Saeed Alborzi | Welcome messages | |
| | | 9:00-9:30 | Charles Chapron | Endometriosis with associated adenomyosis: Which consequences for the patients? | |
| | | 9:30-10:00 | Felice Petraglia | Long term management of Endometriosis | |
| | | 10:00-10:30 | Lone Hummelshoj | Patient Centered Outcomes, a World Endometriosis Society Consensus | |
| | | | 10:30-11:00 | Coffee Break | |
| | Francisco Carmona-Tasuku Harada | 11:00-11:20 | Alexander Popov | Urinary tract endometriosis in patients with deep infiltrating endometriosis: prevalence, symptoms and management | |
| | | 11:20-11:40 | Saeed Alborzi | Colorectal Endometriosis, Diagnosis & management | |
| | | 11:40-12:00 | Shaheen Khazali | Pelvic nerves in endometriosis surgery | |
| | | 12:00-12:20 | Yoke Fai-Fong | Risk management in endometriosis surgery | |
| | | 12:20-12:40 | Amphan Chalermchokcharoenkit | Lateral pelvic side wall endometriosis: A hidden area | |
| | | 12:40-13:00 | Alexey Koval | Prophylactic salpingectomy: to be or not to be? | |
| | | 13:00-14:30 | | Lunch | |
| | | | 14:30-15:50 | Panel 1: Coordinated by: Neil Johnson- Saeed Alborzi Members: Angela Aguilar- Reza Nasr- Alireza Rasekhi- Reza Saadat Mostafavi- Roya Padmehr | Panel: Imaging in Endometriosis and Adenomyosis |
| | Felice Petraglia- Mohammad Mehdi Akhondi | 15:50-16:30 | Debate: Saeed Alborzi- Abbas Aflatonian | Endometrioma and Infertility, Saeed Alborzi: In favor of surgery Abbas Aflatonian: In favor of ART | |
| 16:30-17:00 | | | Coffee Break | | |
| | | 17:00-18:30 | Panel 2: Coordinated by: Felice Petraglia- Mohammad E. Parsanezhad Members: Kutay Biberoglu- Batul Rashidi- Ashraf Alyasin- Amir Hasan Zarnani- Ensiyeh Tehraninezhad- Robabeh Taheripannah | Panel: Endometriosis and ART | |

| | Chairmen | Time | Keynote Speakers | Topic | |
|------------------------------------|--------------------------------------|-------------|--|---|------------------------------------|
| Thursday 23 November 2017 | Charles Chapron- Abdolrasol Akbarian | 8:30-9:00 | Neil Johnson | Possibilities for diagnosing endometriosis, a World Endometriosis Society Consensus | |
| | | 9:00-9:30 | Tasuku Harada | Advances in medical treatment of endometriosis | |
| | | 9:30-10:00 | Sun-Wei Guo | Endometriosis as wounds undergoing repeated tissue injury and repair: Evidence and clinical implications | |
| | | | 10:00-10:30 | Coffee Break | |
| | Neil Johnson- Hamid Gorabi | 10:30-10:50 | Pietro Santulli | Management of endometriosis related infertility | |
| | | 10:50-11:10 | Kutay Biberoglu | Endometriosis and infertility | |
| | | 11:10-11:30 | Angela Aguilar | Dilemmas and barriers in the diagnosis of endometriosis | |
| | | 11:30-11:50 | Yutaka Osuga | Diet and Supplements for Endometriosis | |
| | | 11:50-12:10 | Ming-Qing Li | The role of estrogen-autophagy-immune regulation pathway in the progress of endometriosis | |
| | | 12:10-12:30 | Young Min Choi | Genetics of endometriosis | |
| | | 12:30-14:00 | | Lunch | |
| | | | 14:00-15:20 | Panel 3: Coordinated by: George A Pistofidis- Abolfazl Mehdi-zadeh Members: Mahnaz Ashrafi- Mohammad A. Karimzadeh- Ashraf Moini- Ata Ghahiri- Sedighch Abdolahifard | Panel: Adenomyosis and Infertility |
| | Sean Tsai- Mehdi Paydar | 15:20-16:00 | Debate: Francisco Carmona- Pietro Santulli | DIE and Infertility, Francisco Carmona: In favor of surgery Pietro Santulli: In favor of ART | |
| | | 16:00-16:30 | | Coffee Break | |
| | | 16:30-17:50 | Panel 4: Coordinated by: Khaleque Khan- Hossein Asefjah Members: Yoke Fai-Fong- Hormoz Dabir Ashrafi- Ateyeh Mansori- Ameneh Haghighi- Zahra Askari | Panel: Myoma and Infertility | |

| | Chairmen | Time | Keynote Speakers | Topic | |
|----------------------------------|---|-------------|--|---|---|
| Friday 24 November 2017 | Alexander Popov- Mohammad A. Karimzadeh | 8:30-9:00 | George A Pistofidis | Adenomyosis uteri and fertility: surgical or conservative treatment | |
| | | 9:00-9:30 | Francisco Carmona | Adenomyosis: diagnosis and management | |
| | | 9:30-10:00 | Sean Tsai | COUP-TFII regulates lymphangiogenesis in endometriosis | |
| | | | 10:00-10:30 | Coffee Break | |
| | George A Pistofidis- Abbas Aflatonian | 10:30-10:50 | Khaleque Khan | Adenomyosis: current understanding from bench to clinic | |
| | | 10:50-11:10 | Engin Oral | Endometriosis associated cancer: What is new ? | |
| | | 11:10-11:30 | Moamar Al-Jefout | Young adult females with pelvic pains refractory to conventional therapy | |
| | | 11:30-11:50 | kyu sup Lee | Peritoneal environment in endometriosis | |
| | | 11:50-12:10 | Hong Xu | miRNAs as diagnostic biomarkers for endometriosis: privation or promise? | |
| | | 12:10-12:30 | Hemantha Senanayake | Metalloestrogens and Endometriosis | |
| | | | 12:30-14:00 | Lunch | |
| | | | 14:00-15:20 | Panel 5: Coordinated by: Tasuku Harada Saghar Salehpour Members: Yutaka Osuga- Ziba Zahiri- Zohreh Tavana- Shahla Chaichian- Khadijeh Shadjo | Panel: Medical Treatment of Endometriosis |
| | Shaheen Khazali- Engin Oral | 15:20-16:00 | Debate: Charles Chapron- Alexander Popov | Surgery in Endometriosis, Charles Chapron: In favor of Conservative surgery Alexander Popov: In favor of Radical surgery | |
| | | 16:00-16:15 | | Closing (Mohammad E. Parsanezhad) | |

NEWS FROM THE WORLD OF ENDOMETRIOSIS



AAGL Global Endometriosis Submit, Iceland, 20-21 July 2017.

AAGL gets attention for academically fruitful meeting that was organized for the first time in Iceland this summer. Details of the meeting can be reached via the link below.

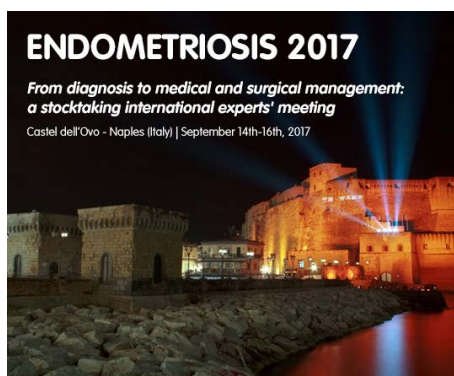
<https://www.aagl.org/iceland/>



SEUD 2018

SEUD Congress which was held in Singapore this year, will be held in Florence/Italy in 2018.

<http://seud.org/#>



Endometriosis 2017 From Diagnosis To Medical And Surgical Management: A Stocktaking International Experts' Meeting, 14-16 September 2017, Italy

The meeting that will bring many experts on endometriosis will be held in Naples/Italy this September. Scientific program that is mainly on diagnosis and surgical management will have live surgery. The courses will be on 10-13th of September, 2017. Details can be reached via the link below

<https://www.eshre.eu/Education/Calendar-Campus-events/Methodological-approaches-for-investigating-endometrial-function-and-endometriosis.aspx>



ESHRE CAMPUS: " Methodological approaches for investigating endometrial function and endometriosis" 18-19 September 2017 Edinburg / UK

This 2-day course of ESHRE Campus will be in Edinburg/United Kindom. Details can be reached via the link below.

<https://www.eshre.eu/Education/Calendar-Campus-events/Methodological-approaches-for-investigating-endometrial-function-and-endometriosis.aspx>

SOCIAL MEDIA



Endometriosis&Adenomyosis Website for Healthcare professionals

Do you know that you can find many activities of our Society, national and international meetings and selected articles summaries, Diagnoses and Management of Endometriosis Turkish Guideline-2014, and even you can reach some books via our website designed in English? You will be in “the world of endometriosis”.

It can be reached via the link below.

www.endometriozisdernegi.com



Summaries of Articles on Endometriosis

Each month articles on endometriosis are regularly reviewed, selected and summarized by **Prof. Fatma Ferda Verit** on behalf of our Society. These summaries of up-to-date articles can be found on our website via the link below.

<http://www.endometriozisdernegi.com/makaleler-0>





Endometriosis&Adenomyosis Website for patients


One of our priorities of our Society is to reach and gather not only health care providers but also the patients. To accomplish this goal we had many projects one of which is to realize “endometriosis.org” website. On this website, there are up-to-date informations, info-books, simple tests and video presentations for patients. This website is entirely free just for the purpose of enabling the patients to reach the right information on endometriosis.


www.endometriosis.org

You can follow us on social media!

 Endometriosis Türkiye Endometriosis

 Endometriosis (cikolata kisti hastaligi)
Endometriosis

 Endometriosis_tr

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