Review Article

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Endometriosis: facts, fallacies, misdiagnoses and current treatments: are doctors missing something, are they undereducated or simply ignoring a widespread disease?

Abstract

Endometriosis is a debilitating disorder in which tissue that normally grows inside the uterus grows outside of the uterus, usually out through the fallopian tubes into the peritoneal cavity.[1–5] The main symptoms are pelvic pain (ranging from mild to extremely severe and debilitating) and infertility. Nearly half of the women affected with endometriosis have chronic pelvic pain, and in 70% of these women the pain is exacerbated by menstruation. Dyspareunia[5] is also common and can lead to the patient stopping intercourse, which in turn can damage any relationship she may have. Infertility occurs in up to half of women affected.[2,5] Less common symptoms include urinary or bowel symptoms. About 25% of women are asymptomatic[1] and endometriosis is discovered as a secondary finding while the patient is examined during an infertility check-up. Endometriosis can have physical, social and psychological effects.[5]

Keywords: dysmenorrhea, dyspareunia, dyschezia, dysuria, menorrhagia, menometorrhagia, endometriosis, infertility, amenorrhea, anovulation

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Obrowski Stephanie,[1] Obrowski Michael[2]

[1]Medical University of Łódź; President of Wilderness Physicians, Europe
[2]Chief Physician and Surgeon of Wilderness Physicians, Europe

Correspondence: Michael Obrowski, MD, Assistant Professor of Anatomy, 43C Żeligowskiego Street, #45, Łódź, Poland 90-644, Europe, Email prof.obrowski@gmail.com

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Introduction and facts regarding endometriosis

The cause of endometriosis is not entirely clear.[6–9] Risk factors include the (possibility) of having a family history of the disease. Most often the ovaries, fallopian tubes and tissue surrounding the uterus and ovaries are affected (Figure 1) however, in rare cases it may also occur in other parts of the body.[7,8] The areas of endometriosis bleed each month which results in inflammation and scarring.[2,3,7] The growths due to endometriosis are not cancerous. Diagnosis is usually based on symptomatology in combination with medical imaging, performed by an OB/GYN, Biopsy of the actual tissue is the surest method of diagnosis.[3,10] Other causes of similar symptoms include irritable bowel syndrome, interstitial cystitis and fibromyalgia. Tentative evidence suggests that the use of combined oral contraceptives reduces the risk of endometriosis.[1] Exercise and avoiding large amounts of alcohol **may** also be preventative.[1,2] Although there is no cure for endometriosis, a number of treatments may improve symptoms[1,2,7] and the patient's quality of life. This may include pain medication (stronger than NSAID's or Tylenol {Paracetamol in Europe}), hormonal treatments, or surgery. The recommended pain medication is usually an NSAID such as naproxen although patients with severe pain MUST be given something stronger such as opioids. When using opioids in a treatment regimen the doctor must be constantly aware as to make sure the patient does not become dependent on the prescribed opioids. Taking the active component of the birth control pill continuously or an intrauterine device with progestin may also be useful. Recently a new device, IMPLANON®, containing 68mg. of Etonogestrel Implant (a steroidal progestin), is implanted in a 30second procedure with a simple injection, on the upper, non-dominant arm in the groove that is formed where the brachial is and triceps brachii muscles insert into the medial aspect of the Humerus. Although initially expensive (about £433, €500 or $565) this calculates over a three year period of only £00.40, €00.46 or $00.52 per day, cheaper than birth control tablets and eliminates the patient care aspect of taking the pill at the same time every day. A desired side-effect of this birth control device is that it reduces menstrual blood flow, cramping, and in some women an almost total cessation of menses. One of our 21year-old patients who had severely debilitating menstrual flow for ten to fourteen days that was so severe she usually required I.V. fluid replacement, after three months post-implantation of IMPLANON®, had a complete cessation of menstrual flow and no menstrual cramping. The implant is left in place for three years and is easily replaced by a skilled doctor trained in insertion/removal when the previous implant is removed. IMPLANON® is one of the newest forms of birth control and shows some promise for endometriosis. However, more research is needed to ascertain the efficacy in reducing the symptoms of endometriosis, although this is a safe form of birth control with little to no side effects, with often a significant reduction in menstrual flow. A Gonadotropin-releasing hormone agonist may improve the ability of those who are infertile to get pregnant.

Endometrial staging and classifications

Staging of Endometriosis depends on:

i. Location of Endometrial Tissue
ii. Extent of Endometrial Tissue infiltrating the abdominal cavity
iii. Depth of endometrial tissue implantation
iv. Presence and severity of adhesions
v. Presence and size of ovarian endometrioma

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Endometriosis is classified into one of four stages

Minimal: In minimal endometriosis, there are small lesions, or wounds, and shallow endometrial implants on the ovary(s). There may also be inflammation in or around the pelvic cavity.

A. Patient may not know she has endometriosis

B. This is how Endometriosis starts

C. Usually discovered incidentally to another procedure

i. Such as why a patient cannot get pregnant

Mild: Mild endometriosis involves light lesions and shallow implants on an ovary and the pelvic lining.

A. Patient may have intermittent pain

B. Pain often mistaken for menstrual pain, PID, IBS or gastroenteritis

I. Often ignored by patient

a. Often treated relatively successfully with NSAID's

Moderate: Moderate endometriosis involves deep implants onto the ovaries and into the pelvic lining. There can also be more lesions in other areas of the abdominal cavity.

A. Patient has either constant or intermittent severe pain

B. Often affects patient's lifestyle

I. Lost time at work/school

i. Dyspareunia

a. Can damage personal relationships

C. Patient often seeks medical advice at this point

D. Often misdiagnosed if not seen by an OB/GYN or Surgeon

I. Patients often misdiagnosed for appendicitis

i. Patients often undergo unnecessary appendectomy

a. Especially if the surgeon doesn't do a proper H&P

II. Patients often accused of drug-seeking

Severe: This is the most severe stage of endometriosis which involves deep implants of endometritis tissues onto the pelvic lining and ovaries. (Figure 1) There is also a high probability that lesions will be on the fallopian tubes, ovaries and bowel segments.

A. Severe Pain, especially excessive menstrual cramps

B. May be felt in the abdomen or lower back.

I. Some patients are in such pain they consider suicide

II. If this is the case - refer to a Psychiatrist Immediately

a) Do Not Delay

b) The patient may commit suicide waiting for a psych referral

c) Place the patient on at LEAST 5-10mg. Diazepam tid

d) Also consider a strong opioid

i. Be careful though if you also had to give Diazepam

a) Diazepam will multiply the effects of opioids

III. Dyspareunia is common

a) Ruins personal relationships

IV. Menorrhagia is common

V. Infertility

a) Causes more depression - a vicious cycle

VI. Painful micturition during menstrual periods

VII. Painful bowel movements during menstrual period

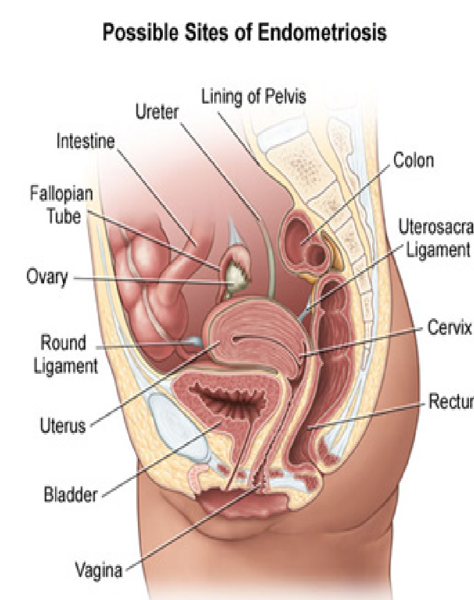

Figure 1 Credit: Johns Hopkins University.

Surgery and surgical alternatives

Is surgery the first step in treating Endometriosis? Absolutely Never! Naturally a thorough History and Physical is absolutely vital to be done first, with special concentration on gynecologic and lifestyle issues. Do not forget anything, especially obesity, alcohol consumption, illicit drug use (type of drug and amount used), gravidity and parity, any problems with pregnancies, Natural Birth or Caesarean Sections, spontaneous or elective abortions, past or current STD's, current sexual activity including number of current partners, when did the pain start, does it radiate, any past surgeries for any reason and have any gynecological procedures been performed by another OB/GYN or Surgeon. We recommend the following logical progression of procedures to be done for a suspected Endometriosis Patient:

Ultrasound

You may use a transvaginal ultrasound or an abdominal ultrasound on your patient. In a transvaginal ultrasound, often a clearer picture of the abdominal organs can be seen, especially if the patient is obese. The transducer is positioned better and does not have to deal with excessive fatty abdominal tissue. Both types of ultrasounds will provide images of the reproductive organs; the transvaginal transducer is preferred by these authors. You can identify cysts associated with endometriosis, but ultrasounds are not effective in ruling out endometriosis. Another medical condition to consider when looking at the patient's ultrasound are Leiomyomas of the Uterus which can be

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painful and can only be treated by minimally invasive surgery or total hysterectomy, depending on the size and staging.

Hysteroscopy

Hysteroscopy is a procedure which uses a thin tube-like telescope to see inside the uterus. It allows surgeons and OB/GYN's to do some minor operations in the uterus. Hysteroscopy is performed using a narrow tube-like instrument called a hysteroscope. The hysteroscope is very narrow (about 3 to 5millimeters in diameter). It is carefully passed through the vagina, (usually without a vaginal speculum) and neck of the cervix and into the uterus. The hysteroscope has a video camera which sends pictures to a computer screen. This allows you to check for any abnormalities in the lining of the uterus.

Laparoscopy

Is a type of surgery in which small incisions are made in the abdominal wall through which a laparoscope and other instruments can be inserted to permit structures within the abdomen and pelvis to be seen. A variety of probes or other instruments can also be passed through these small incisions in the skin. In this way, a number of surgical procedures can be performed without the need for a large surgical incision.

Laparotomy

A laparotomy is a surgical procedure involving a large incision through the abdominal wall to gain access into the abdominal cavity. It is also known as a celiotomy. A laparotomy in the case of Endometriosis is the last resort, however the wide access allowed to the abdominal cavity can allow a surgeon to deal with wide-spread endometriosis. If possible, the authors prefer to use the transperitonealis suprapubica transversa incision, which is the same operative opening used in Caesarean Sections, the post-operative scar is easily hidden in the "bikini line"-always think of your patient's post-operative psychological status. The transperitonealis suprapubica transversa incision also gives good access to the abdominal cavity and can easily be extended and still allow the patient to hide the scar post-operatively. Especially in the 20 to 45year old thin patients, try under all circumstances to NOT use the standard vertical incision (Midline Incision or Midline Laparotomy).

Treatment options

Pain medications

Over-the-counter pain medications such as Ibuprofen (Naprosyn, Naproxyn) can be used, but can also be combined with an opioid (Codeine) depending on the patient's pain level. In most countries in Europe, Naproxyn (200mg.) is available OTC combined with 12.5mg. of Codeine (usually called Nurofen Plus). The next step up in the pain control therapy regimen is Acetaminophen (Paracetamol) with Codeine-in Europe: Ultracod and contains 500mg. of Paracetamol combined with 30mg. of Codeine. This is equivalent to the USA Tylenol #3. In the USA, Tylenol #4 is available which contains 60mg. of codeine rather than 30mg. of codeine - slightly better for the patient from the Acetaminophen toxicity standpoint. The problem is the patient is limited to 8 tablets a day (4,000mg. of paracetamol or acetaminophen) due to the toxicity of the Paracetamol (Acetaminophen). This is a prescription drug in the USA and Europe except in Lithuania. The next step higher is Pure Codeine Tablets, 30mg, very tiny tablets, about 3mm. in diameter by 2mm. in thickness. Available in Ireland and the United Kingdom. These tablets were designed for the elderly with liver problems that need pain relief but cannot eliminate the paracetamol (acetaminophen). Physicians are VERY reluctant (quite understandably) to prescribe this drug to younger patients as it is often crushed up and snorted. Next step up is DF-118, available worldwide by a variety of names. DF-118, as it is commonly called in Ireland and the United Kingdom is Dihydrocodeine, a semi-synthetic opioid analgesic prescribed for pain or severe dyspnea, or as an antitussive.

After DF-118, we get into the extremely strong painkillers which often need to be prescribed for Endometriosis Patients; however most doctors, especially in the USA, are too scared to prescribe these drugs due to the high addiction potential. In practice we have encountered patients that are experiencing such severe pain that they have had suicidal thoughts and tendencies as a result of their medical practitioner refusing to listen to their pain needs; although many doctors are afraid to prescribe strong medication, when the alternative can lead to suicidal ideation and tendencies the patient's overall well-being must be considered.

Oxycontin (Oxycodone, Oxifast, Roxicodone) 20, 40, 60 80, 160mg

Oxycontin (oxycodone) is an opioid pain medication. An opioid is sometimes called a narcotic. Oxycontin is used to treat moderate to severe pain that is expected to last for an extended period of time. Oxycontin is used for around-the-clock treatment of pain. It is not to be used on an "as-needed" basis for pain. Patients should not use Oxycontin if they have severe asthma or breathing problems, or a blockage in their stomach or intestines. Oxycontin can slow or stop a patient's breathing, especially when they start using this medicine or whenever you change their dose. When using strong opioids, start the dosage low and increase as needed. Your patient should be instructed to never take this medicine in larger doses than the dose prescribed, but should return for another visit and discuss it with their physician. They should also be strongly advised to not take the drug for longer than prescribed, but you can easily control this by prescribing only a certain amount. These are all necessary precautions that must be taken to prevent narcotic addiction and must be taken as this is a highly addictive drug group. Oxycontin should not be used by pregnant women if at all possible as it may (probably) will cause life-threatening withdrawal symptoms in the newborn. Make it very clear to the patient to not drink alcohol. Dangerous side effects, such as death, can occur when alcohol is combined with Oxycontin.

Morphine

A. A very powerful opioid drug

B. Usually not given for Endometriosis.

  I. Can be given in the hospital to either examine a patient in massive pain or as a post-operative pain killer.

  II. Most commonly used in hospital for setting broken bones

    a) Extremely Addictive

      i. Do not give Morphine Sulfate tablets for the patient to take home.

Diamorphine

A. (5α,6α)-7,8-didehydro-4,5-epoxy-17-methylmorphinan-3,6-diol diacetate

B. More commonly known as heroin

  I. One of the most addictive drugs in the world

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II. Street form is not pure and "cut" with unknown substances

a) These substances range from lactose to rat poison

b) Street drug is usually between 3-10% Heroin

III. Never used in Endometriosis

a) Not even for pain relief

IV. Used in hospital in pure form for dying cancer patients

a) Suffering from intractable pain

b) This is a useful drug to relieve the pain of dying patients

Hormonal therapy: Taking supplemental hormones can sometimes relieve pain. This therapy helps the patient's body regulate the monthly changes in hormones that promote the tissue growth that occurs when you have endometriosis. The previously mentioned IMPLANON® is a safe way for the patient to get a low dose hormone for three years and not have to worry about remembering to take another pill.

Hormonal contraceptives: Hormonal contraceptives decrease fertility by preventing the monthly growth and buildup of endometrial tissue. Birth control pills, patches, and vaginal rings can reduce or even eliminate the pain in less severe endometriosis. In our experience and opinion, the above mentioned and previously discussed IMPLANON® is a convenient alternative for the patient.

Gonadotropin-releasing hormone (GRNH) agonists and antagonists: Women take what are called gonadotropin-releasing hormone (GnRH) agonists and antagonists to block the production of estrogens that stimulate the ovaries. Estrogen is the hormone that's mainly responsible for the development of female sexual characteristics. This prevents menstruation and creates an artificial menopause. The therapy has side effects like vaginal dryness and hot flashes. Taking small doses of estrogen and progesterone at the same time can help to limit or prevent these symptoms. We do not recommend this methodology in young women in child-bearing years. We are trying to get Endometriosis under control so these women can get pregnant, not put them into menopause.

Danazol: Danazol (AKA: Danocrine, Danol, Danazol, Danatrol, Danoval, Cyclomen and many other names), is also known as 17α-ethinyl-17β-hydroxy-4-androsten-[2,3-d]isoxazole, is a synthetic steroid that is used primarily in the treatment of endometriosis and is marketed widely throughout the world for this purpose. Danazol was approved by the United States Food and Drug Administration as the first drug to specifically treat endometriosis in 1971. Although effective for endometriosis, its use is limited by its masculinizing side effects, effects including acne and hirsutism. Since its introduction, Danazol has largely been replaced by gonadotropin-releasing hormone (GnRH) agonists in the treatment of the condition.Again, these authors personally do not recommend this beard-growing drug, unless that is the look your patient is going for.

Medroxyprogesterone (Depo-provera): Medroxyprogesterone (Depo-Provera) injection is effective in stopping menstruation. Whether it stops the over-growth of endometrial tissue is still a subject of great debate amongst scientists. It may relieve pain and other symptoms, however, it can also decrease bone production and density, cause weight gain and lead to depression.

Conservative surgery: Conservative surgery is for women who want to get pregnant and/or suffer from severe pain. The goal of conservative surgery is to remove or destroy endometrial growths without damaging the reproductive organs. This can be done through traditional open surgery, in which endometrial growths are removed through a wide incision. We recommend the Pfannenstiel Incision (Figure 2), it gives good access to the reproductive organs and can be hidden in the "bikini line". Furthermore, we do not recommend the "slice and remove" technique of removing endometrial tissue. It will grow back and on that point there is no debate or discussion. The endometrial tissue has to be totally destroyed. What we have used in the past and highly recommend is the BOVIE® Brand Helium Gas J-Plasma® System. The width, depth and strength of the ablation can be varied and you can be certain that all the endometrial tissue you can see and get to will be destroyed. It can even be used for clearing fallopian tubes, naturally depending on the skill of the surgeon and the width of the fallopian tube. According to BOVIE®[11] we quote directly (and totally agree) "JPlasma increases a surgeon's ability to target endometriosis and chronic pelvic pain which may result in less inflammation, accelerated healing (as compared to electrocautery) reduced adhesion formation and improved outcomes in patients with chronic pelvic pain and endometriosis."

Radical surgery (Hysterectomy): A total hysterectomy is a last resort if the patient's condition doesn't improve with all of the other treatments mentioned. If a woman already has children and is in her 40's and does not want more children, this is the final, permanent irreversible fix to endometriosis. Make sure the patient knows she will also have her ovaries removed and she will never be able to have children again, as the ovaries make estrogen and estrogen causes the growth of endometrial tissue.

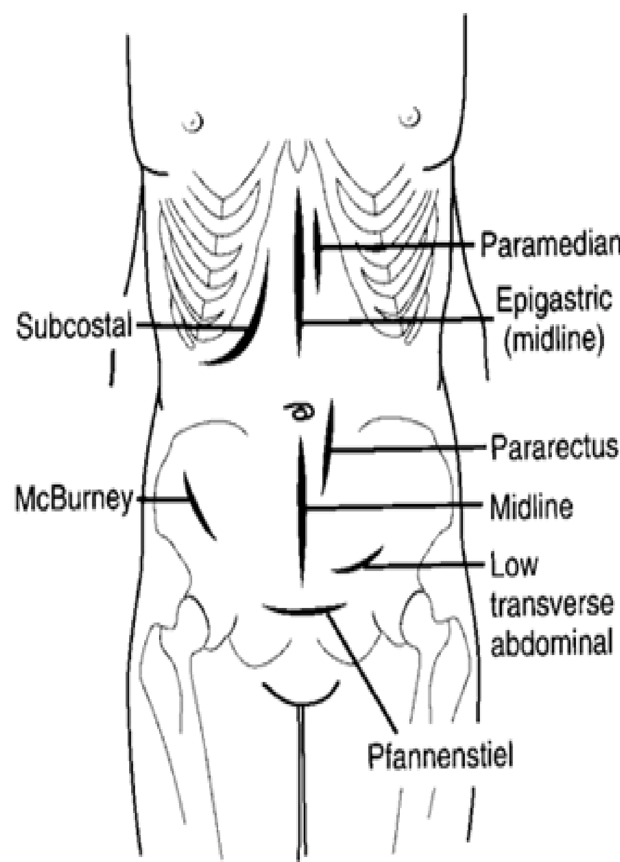

Figure 2 Various incision types and locations.

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What causes endometriosis?

During every regular menstrual cycle, the body sheds the lining of the uterus. This allows menstrual blood and tissue to flow from the uterus through the small opening in the cervix and out through the vagina. Endometriosis often occurs due to a process called Retrograde Menstruation. This happens when menstrual blood flows back through the fallopian tubes into the pelvic cavity instead of leaving the body in the normal manner. The displaced retrograde endometrial cells then stick to pelvic walls and other surfaces of pelvic organs, such as the bladder, ovaries and rectum. They continue to grow, thicken and bleed over the course of a woman's menstrual cycle. It is also possible for the menstrual blood to leak into the pelvic cavity through a surgical scar, such as after a Cesarean Delivery. Research physicians believe the condition may also occur if small areas of a patient's abdomen convert into endometrial tissue. This may happen because cells in the abdomen grow from embryonic cells, which can change shape and act like endometrial cells. The cause is still unknown; therefore no scientific references are given.

Endometriosis prognosis

Endometriosis is a chronic condition with no cure. However, this doesn't mean the condition has to impact a patient's daily life. There are effective treatments to manage pain and fertility issues, such as medications, hormone therapy or surgery. The symptoms of endometriosis usually improve after menopause, not an encouraging fact for young women who want to have children NOW! Surgical removal of endometrial tissue may be done in those whose symptoms are not manageable with other treatment.[11–14] Highly skilled surgeons in modern hospitals are now using gas-shielded plasma devices[11,14] due to better hemostasis and accuracy, shorter operating time and more complete removal of endometriotic tissue, both for pathological examination and total ablation of smaller lesions, hence preventing their return.[11,14] The authors of this article have tried the BOVIE® J-Plasma® Helium Gas Shielded Device with excellent results on Endometriosis.

What can be the symptoms of endometriosis?

The primary symptom of endometriosis is pelvic pain, often associated with a woman's menses. Although many women experience cramping during menses, women with endometriosis typically describe menstrual pain that's far worse than usual. They also tend to report that the pain has increased over time. Some common phrases patients with this condition have heard from previous doctors and mentioned are "It is all in their mind", "It will pass soon", "They are drug seeking" and many more similar comments. A physical exam can and should rule out "drug seeking" behavior and lead you towards further investigation. Remember, you control the amount of opioid's you give your patient so it is up to you to prevent them from becoming dependent. NSAID's on severe endometrial pain in practice do not provide pain relief for the extreme amount of pain caused by endometriosis.

Common signs and symptoms of endometriosis

i. **Dysmenorrhea**: Pelvic pain and cramping may begin before and extend several days into the patient's menses and may include lower back and abdominal pain.

ii. **Dyspareunia**: Pain during or after sex is common with endometriosis.

iii. **Dyschezia or Dysuria**: The patient may experience these symptoms with either a normal period or as a result of endometriosis.

iv. **Menorrhagia**: The patient may experience these symptoms as a result of endometriosis.

v. **Menometorrhagia**: The patient may exhibit these symptoms either during or after her menses, often causing the patient difficulty knowing when her menses has actually ended. The patient may experience these symptoms with either a normal period or as a result of endometriosis.

vi. **Infertility**: Endometriosis is first diagnosed in some women who are seeking treatment for infertility.

vii. **Amenorrhea**: A condition in which a woman doesn't have menstrual periods.

viii. **Anovulation**: A condition in which a woman doesn't ovulate or ovulates rarely.

ix. **Other Symptoms**: Women with endometriosis may experience fatigue, diarrhea, constipation, bloating or nausea, especially during menstrual periods. The severity of the patient's pain is not necessarily a reliable indicator of the extent of the endometriosis. Some women with mild endometriosis have extensive pain, while others with advanced endometriosis may have little or even no pain at all. There is no predictor for the amount of pain a woman will have as each case is different and hence should be thoroughly evaluated. Endometriosis is sometimes mistaken for other conditions that can cause pelvic pain, such as Pelvic Inflammatory Disease (PID) or Ovarian Cysts. It may also be confused with Irritable Bowel Syndrome (IBS), a condition that causes bouts of diarrhea, constipation and abdominal cramping. IBS can accompany endometriosis, which can and usually will severely complicate the diagnosis.

The world politics regarding endometriosis

In the European Union, so far nothing is being done. A 92page report entitled "Data and Information on Women's Health in the European Union", was written in 2009 (7years ago and this is the most current research study.) by the prestigious Faculty of Medicine Carl Gustav Carus, Research Association Public Health Saxony and Saxony-Anhalt, Technische Universität Dresden, Dresden, Germany. This "research" was supported by the European Union Directorate-General for Health & Consumers. Our comments are in parenthesis. I quote their "discussion" on endometriosis in its entirety as follows: "Endometriosis, a disease occurring only in women, is defined as the presence of endometrial-liketissue, i.e. glands and stroma, outside the uterus. The most-affected sites are the pelvic organs and peritoneum. The disease varies from a few, small lesions on otherwise normal pelvic organs, to solid in filtrating masses and ovarian endometriotic cysts (endometriomas). Symptoms are sub fertility, dysmenorrhoea, dyspareunia, chronic pelvic pain or perimenstrual symptoms (frequently bowel or bladder), abnormal bleeding, and chronic fatigue. Many women with endometriosis are asymptomatic. (Only about 25% are asymptomatic with the rest usually experiencing severe symptoms). Depending of the severity of endometrioses, it can cause infertility and sub fertility. In the reproductive years the prevalence is circa 10% in women (Vigano et al. 2004). (Only one 12year old study is quoted, while there have been numerous studies since to refute this statement) The most widely used classification is

that of the American Society for Reproductive Medicine (ASRM). The severity of endometriosis is described as minimal (Stage 1), mild (Stage 2), moderate (Stage 3), or severe (Stage 4). This definition was developed to assist in determining the prognosis and management of patients with endometriosis undergoing surgery for sub fertility. The study group[7] (one 11 year old study) have analysed a risk of recurrence of endometriosis after the first line treatment (two-year recurrence rate was 5.7% among cases stage 1-2 and 14% among stage 3-4). If a woman suffers from endometriosis she more frequently develops autoimmune diseases e.g. rheumatoid arthritis or systemic lupus erythematosus (SLE). Risk factors for the development of endometriosis are age, obesity, and greater exposure to menstruation (e.g. short cycles, menorrhagia, and low parity). Smoking, exercise, and oral contraceptive use may be protective(recommending smoking, which is the second leading cause of death in women, is not sound medical advice-the European Union supporting this paper shows that their information on this topic is extremely dated and mostly no longer correct) (Koninck 1994). Genetic predisposition is likely, as endometriosis occurs 6-9times more often in 1st degree relatives, suggesting endometriosis is a complex genetic trait like diabetes or asthma." (There is no scientific research supporting these statements cited within the paper.)

The European Union covers 4,324,782km² and has 507,416,607 legal inhabitants (as of January 1, 2016) - the world's third largest population after China and India. As of 2010 (the latest statistics we could find) 51.2% of the European Union Population is female! Shouldn't the EU as a whole be more concerned about female health when greater than half the population is female? We think so. This is the only recognized paper on endometriosis and this is a German "in-depth" analysis of Health Problems of Women in Europe. The so-called "Bundesrepublik Deutschland" wrote 343 words on endometriosis. The field of obstetrics and gynecology is focusing mainly on pregnancy and birth but endometriosis is an issue that precedes these stages of a uterus for many women internationally. Another country that is ignoring the issue of endometriosis is Great Britain. The N.H.S. (National Health Service) is severely lacking physicians; hiring over 1,000 physicians a month and they are still severely understaffed. The G.M.C. (General Medical Council) licenses physicians in the U.K for £425 (€491 or $555) per year. In comparison, Italy charges £16 (€18 or $20) for their registration fee. The U.K. (as of August 15, 2016) has 238,498 Registered Practitioners and Italy has over 235,000 Registered Practitioners (as of 2013)! Financially, the G.M.C. itself brings into its bulging bank accounts £101,361,650 ($130,518,329)! The U.K. has a population of 65,111,143 (current 2016) and Italy has a population of 59,801,004 (current 2016) - so this is a 5,310,139 difference in population (not even 10% higher in the U.K.), which is statistically insignificant. The complete disparity between costs of licensure within the UK versus Italy should amount to more money in the U.K being allotted for research, but we have yet to see large (expensive) research studies emerging from the U.K.From August 14, 2013, we quote directly from Professor J Meiri on Thomas who told the British Telegraph:"Calling for more British doctors to be employed Professor J Meiri on Thomas pointed out that professionals drafted in from abroad often have language difficulties, are not as well trained, and know little of our culture." One must ask why is the U.K. so short of doctors? It is more expensive to get licensed, but even though it is more costly than other countries, it is not short of applicants. This massive lack of physicians leads to waiting times in Emergency Rooms in the England, Scotland and Ireland that range from 8 to 12hours. After that, whether you waited for ten or twelve hours, they give you a referral slip to see an OB/GYN in the future. They are overwhelmed due to months long hiring practices. The Director of the NHS and the Director of the GMC make so much money they do not even publish their salary, as required by public information laws.

What is the USA doing about the problem of endometriosis?[4,14,15]

The USA and its physicians are more aware of the debilitating effects of endometriosis. The USA also has physicians that better trained to deal with this specific issue. In the USA, over 6.3million women and young girls, 1million in Canada and about 176million worldwide are affected with the debilitating effects of endometriosis. There is a large support system in the USA for women suffering from this debilitating disease and the doctors have been shown to be less likely to accuse the patients of being drug seeking, and take the time to perform a thorough physical exam of the patient which is where many countries and doctors fall short.

One of the excellent support and information websites in the U.S.A. for endometriosis patients is: http://www.endometriosisassn.org/endo.html. Another excellent site with many links, factsheets and information on endometriosis: http://www.womenshealth.gov/publications/our-publications/fact-sheet/endometriosis.html. Why the great disparity between a major world superpower (the USA) and England when it comes to treating our women who suffer from a chronic, severely debilitating diseases?

First, we must look at the percentage of the Gross Domestic Product (GDP) of each country that is annually spent on health care and welfare of its citizens: (http://data.worldbank.org/indicator/SH.XPD.TOTL.ZS). In 2016, the USA had a legal population of 326,492,060 legal citizens (and according to the United States Department of Homeland Security (DHS) has an estimated 12.0 million unauthorized immigrants lived in the United States as of January 2012) and the USA's GDP Expenditures (per capita national health expenditures): was 17.1% (latest data from 2013). In the United Kingdom which had a legal population of 65,039,319 in 2016, the U.K.'s GDP Expenditures (per capita national health expenditures): was 9.1% (latest data from 2013).[16–20]

That is 8.0% LESS than the health expenditures in the USA - so obviously this large loss has to be cut from some services not being provided by the NHS! Now that the U.K. has withdrawn from the E.U., it is suspected the national health expenditure may fall even more! Germany, with a 2016 population of 79,758,764 did slightly better than the U.K., but not by much; with a GDP of 11.3%, but we must remember Germany is the wealthiest country in the EU and the "absolute EU Superpower"! For example, a poor country such as Uganda, in 2013, had a higher GDP Expenditure per capita than the U.K. at 9.8%. In conclusion, for endometriosis more time and funds should be allotted to the treatment of this disease.[21–26] It is severely understudied and under diagnosed due to insufficient funding and the lack of knowledge of doctors worldwide.

Dedication

To women worldwide suffering from this disease, especially the "Endo Sisters Support Groups" of Instagram who inspired us to write this scientific paper. A very special thanks to "Ashlee"-the thought of your pain kept us going through all the hundreds of hours spent researching and writing this article-we thank you!

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Disclaimer

The two authors involved in this study reviewed OVER two hundred academic and clinical publications on the subject of endometriosis and found current, fact based information severely lacking. Many of the documents were 15 to 25years old, many of the documents were written by Family Practitioners, Nurse Practitioners and Nurses who are unqualified to treat or diagnose Endometriosis as they have not undergone proper training. Many articles discussed post-menopausal women (not our focus here), but regardless, most of the treatment modalities were simply incorrect and those academic texts that discussed endometriosis were usually 20+years old in treatment techniques. We eliminated all these highly questionable and simply wrong references. In our opinion and our combined 30+years of education and experience, we kept the ones that were remotely applicable to the scourge of endometriosis that is torturing many young, pre-menopausal women in the 21st Century who would still like to bear children, but most importantly not suffer from the intense pain of endometriosis. The pain is real, we have talked to dozens of endometriosis patients and some have even contemplated hysterectomies in their 20's or even suicide for relief from the pain! It is easy for an Experienced OB/GYN or General Surgeon to ascertain whether the pain is real. Physicians also need to open their minds to this terrible disorder and stop telling patients "It will go away!" or "It's all in your mind, you're fine!" Do not ignore the patients' symptomatology! Consider this: What would you if this was your wife or daughter? Of course you would not ignore it, so why are so many tens of thousands of doctors ignoring this true physiological problem?

To patients suffering from endometriosis that are reading this

There are doctors that are on your side, and if anyone makes you feel as if you are drug seeking please find a new doctor who can help you.

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Human studies

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Conflict of interest

The author declares no conflict of interest.

References

1. Endometriosis: Overview.
2. Bulletti C, Coccia ME, Battistoni S, et al. Endometriosis and Infertility. *J Assist Reprod Genet*. 2010;27(8):441–447.
3. Endometriosis; 2014.
4. Overton C, Davis C, McMillan L, et al. *An Atlas of Endometriosis*. 3rd ed. London: Informa Healthcare; 2007. p. 9–10.
5. Culley L, Law C, Hudson N, et al. The social and psychological impact of endometriosis on women's lives: A critical narrative review. *Hum Reprod Update*. 2013;19(6):625–639.
6. Obrowski M, Obrowski S. Stopping massive, Uncontrollable uterine bleeding post-caesarean section: a case report. *MOJ Womens Health*. 2015;1(2):00006.
7. Vercellini P, Eskenazi B, Consonni D, et al. Oral contraceptives and risk of endometriosis: a systematic review and meta-analysis. *Hum Reprod Update*. 2011;17(2):159–170.
8. Stratton P, Berkley KJ. Chronic pelvic pain and endometriosis: translational evidence of the relationship and implications. *Hum Reprod Update*. 2011;17(3):327–346.
9. Endometriosis; 2002.
10. Ballard K, Lane H, Hudelist G, et al. Can specific pain symptoms help in the diagnosis of endometriosis? A cohort study of women with chronic pelvic pain. *Fertil Steril*. 2010;94(1):20–27.
11. http://www.boviemedical.com/jplasma/
12. Radosa MP, Bernardi TS, Georgiev I, et al. Coagulation versus excision of primary superficial endometriosis: a 2-year follow-up. *Eur J Obstet Gynecol Reprod Biol*. 2010;150(2):195–198.
13. Gomel V, Taylor PJ. *Diagnostic and operative gynaecologic laparoscopy*. USA: Mosby; 1995. p. 1–360.
14. https://www.youtube.com/watch?v=yZMZ_Dq1Vj4
15. Simoens S, Dunselman G, Dirksen C, et al. The burden of endometriosis: costs and quality of life of women with endometriosis and treated in referral centres. *Hum Reprod*. 2012;27(5):1292–1299.
16. Obrowski M, Obrowski S. Hyperemesis Gravidarum - A Serious Issue During Pregnancy: In-Depth Clinical Review and Treatment Modalities. *MOJ Womens Health*. 2015;1(2):00010.
17. Obrowski M, Obrowski S. Intrauterine growth retardation (IUGR): a case report. *Acad J Ped Neonatol*. 2016;1(2):555–556.
18. Obrowski S, Obrowski M, Starski K. Normal pregnancy: a clinical review. *Academic Journal of Pediatrics & Neonatology*. 2016;1(1):555554
19. Global, regional, and national age-sex specific all-cause and cause-specific mortality for 240 causes of death, 1990-2013: a systematic analysis for the global burden of disease study 2013. *Lancet*. 2015;385(9963):117–171.
20. Asante A, Taylor RN. Endometriosis: the role of neuroangiogenesis. *Annu Rev Physiol*. 2011;73:163–182.
21. Audebert A. La femme endométriosique est-elle différente ? [Women with endometriosis: are they different from others?]. Gynécologie, *Obstétrique & Fertilité*. 2015;33(4):239–246.
22. Rowlands IJ, Nagle CM, Spurdle AB, et al. Australian National Endometrial Cancer Study Group and Australian Ovarian Cancer Study Group. Gynecological conditions and the risk of endometrial cancer. *Gynecol Oncol*. 2011;123(3):537–541.

23. Benagiano G, Brosens I, Habiba M. Structural and molecular features of the endomyometrium in endometriosis and adenomyosis. *Hum Reprod Update*. 2014;20(3):386–402.

24. Nisolle M, Paindaveine B, Bourdon A, et al. Histologic study of peritoneal endometriosis in infertile women. *Fertil Steril*. 1990;53(6):984–988.

25. Acosta S, Leandersson U, Svensson SE, et al. A case report: Endometriosis caused colonic ileus, ureteral obstruction and hypertension. *Lakartidningen*. 2001;98(18):2208–2212.

26. Batt RE, Mitwally MF. Endometriosis from thelarche to midteens: pathogenesis and prognosis, prevention and pedagogy. *J Pediatr Adolesc Gynecol*. 2003;16(6):337–347.

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