International Clinical and Medical Case Reports Journal
Review Article (ISSN: 2832-5788)

Superficial Endometriosis, Should We See and Treat?

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Citation: *Saira Azhar, Shahdab. Superficial Endometriosis, Should We See and Treat?. Int Clinc Med Case Rep Jour. 2025;4(7):1-12.*

Received Date: 01 July 2025; **Accepted Date:** 04 July 2025; **Published Date:** 06 July, 2025

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ABSTRACT

Endometriosis is a condition in which tissue similar to endometrium is found outside uterus, often in the pelvic area. This misplaced tissue can cause inflammation, pain and formation of scar tissue. Superficial endometriosis is a form of endometriosis where patches are thin usually < 5mm on the peritoneum. The actual prevalence of superficial endometriosis is not known. However, it is considered the most common subtype of endometriosis. The diagnosis of superficial endometriosis remains difficult. In fact, little is known about the ultrasound features of superficial endometriotic lesions. They can take different forms. Sometimes they are active red lesions very similar to endometrium. Often, they appear brownish or black testifying to an old haemorrhage, others are whitish, reflecting a healing process. In this article I am reviewing the literature to find out if we should follow see and treat approach if we see superficial endometriosis and do it improve pain and subfertility?

INTRODUCTION

Endometriosis is a gynaecological disease characterized by the presence of endometrium-like tissue outside the uterus. There are three different subtypes, namely, peritoneal endometriosis, ovarian endometriosis, and deep endometriosis.

Peritoneal endometriosis, also called superficial endometriosis, is characterized by functional ectopic endometrium-like tissue extending up to 5mm under the peritoneal pelvic surface and/or the serosa of pelvic viscera. During laparoscopy, superficial endometriotic lesions appear as transparent-vesicle lesions in the very early stage, evolving to black-brown or light red-orange areas in active lesions and as 1–3 mm white fibrotic areas in inactive lesions. Microscopically, for peritoneal endometriosis, some cases may exhibit the presence of endometrium-like tissue characterized by the presence of endometrial glands and stroma, or even only endometrial stroma. However, these ectopic lesions are histologically diverse and rarely show menstrual cycle synchronicity with the matched utopic endometrium.

The pathogenesis of endometriosis, and particularly superficial endometriosis, is not completely known. The development of endometriosis involves interacting endocrine, immunologic, proinflammatory, angiogenic, and neurogenic processes. Classically, the theories of retrograde menstruation and implantation of endom2wetrial cells and coelomic metaplasia have been advocated to explain the development of endometriosis. However,

these theories do not explain the different subtypes of the clinical appearance of endometriosis and have been challenged by a recent theory of genetic-epigenetic changes postulating that a series of cumulative genetic-epigenetic incidents, related to intracellular aromatase activity resulting in intracellular estrogen production, are required for the development of endometriosis.

The actual prevalence of superficial endometriosis is not known. However, it is considered the most common subtype of endometriosis, being present in up to 80% of women suffering this disease. In fact, it has been reported that in 30% of women with laparoscopically confirmed case diagnoses, it is the only type of endometriosis present. Superficial endometriosis is found in 40% of asymptomatic women. However, superficial endometriosis has been associated with pelvic pain and infertility, with an adjusted prevalence ratio of 1.83, 1.43, and 1.50 for primary infertility, severe dysmenorrhea, and deep dyspareunia, respectively, as compared to women with no endometriosis. It has been reported that approximately 64% of adolescent patients receiving laparoscopy for refractory pelvic pain as an alternative to conventional medical treatment exhibited endometriosis, half of them presenting with superficial endometriosis.

The diagnosis of endometriosis remains difficult, as there is no reliable biomarker, and often, laparoscopy is required to confirm the presence of the disease. This is particularly true for the case of peritoneal endometriosis. In fact, current guidelines establish that laparoscopy is needed for diagnosing superficial endometriosis. Certainly, imaging techniques, such as transvaginal ultrasound (TVS) and magnetic resonance image (MRI), can effectively diagnose ovarian endometriosis and deep endometriosis. However, significant limitations have been traditionally assumed for peritoneal endometriosis. Some authors have advocated the use of the so-called SonoPODgraphy, consisting of creating an acoustic window in the pouch of Douglas (POD) by the instillation of saline through the tubes, as usually performed in saline-infusion sonohysterography. In this preliminary report, the accuracy of this technique in a series of 30 women with superficial endometriosis, without other types of the disease (ovarian or deep) or Douglas obliteration, was 80%.

In this article we intend to see if treating superficial endometriosis helps in reduction of pain and increasing fertility.

Diagnosis of Endometriosis:

Awareness of the wide range of visual appearance of endometriosis is necessary to make an accurate diagnosis so that proper treatment can be instituted and the surgeon may avoid incorrectly labelling a patient as having unexplained infertility or pain. It has been estimated that the diagnosis of endometriosis has been missed in 7% of patients,

Conversely, it has been shown that many other lesions have an appearance similar to the typical endometrial lesion. These lesions include old suture, ovarian cancer, residual carbon deposits from previous surgery, and haemangiomas. The diagnosis of endometriosis has traditionally been made by visual inspection with identification of the bluish or typical powder burn lesion. It has become evident, over the last several years, that the appearance of endometriosis can be quite varied in its presentation. Several recent articles have described atypical and nonpigmented forms of endometriosis. Martin et al. have described as many as 20 different morphological appearances of endometriosis including scarred lesions, red lesions, vesicular lesions, peritoneal windows, yellow-brown patches, and adhesions. The loss of depth perception with the uniocular laparoscope makes diagnosis of some nonpigmented lesions difficult. Redwine20 has even suggested painting the

peritoneum with blood to enhance the diagnosis of subtle lesions. The atypical endometrial lesions may represent early active endometriosis that with time will progress to pigmented and the depth of the endometrial implant. Cellular activity was noted in 58% of the superficial implants «1 mm) and 68% of deep implants (>5 mm). Yet only 25% of intermediate implants (2 to 4 mm) were noted to have cellular activity. superficial implants represent the initial stage of proliferation of retrograde menstruation. As proliferation of the lesion progresses to an intermediate depth, many of the implants burn out under the influence of the high progesterone in the peritoneal fluid. Implants that survive and invade deeply (>5 mm) are primarily under the influence of circulating steroids and become very active. The assessment of the depth of the lesion at laparoscopy correlated well with the histologic measurements.

Should we Treat?

Laparoscopy has enhanced the ability of the gynaecologist to diagnose endometriosis. With the advent of improved laparoscopic instrumentation and multiple puncture sites, there is a large overlap in surgical procedures performed either by laparoscopy or laparotomy. The principles are similar regardless of the approach, except for the laparoscope's advantage of magnification, which is particularly helpful in ablating endometriosis. Comparative studies of laparoscopy versus open laparotomy for gynaecologic surgery report shorter hospitalization stays, reduced costs, and shorter recuperation time with laparoscopy while maintaining comparable efficacy rates (70% pain relief) in small studies. Additionally, laparoscopy may decrease the incidence of de novo adhesion formation when compared with laparotomy.

The surgical approach to the treatment of endometriosis is determined largely by the goals of treatment, which must be clearly delineated prior to surgery. The two major symptoms of endometriosis are pelvic pain and infertility. The fine balance that exists between reducing pain and increasing fertility must be carefully considered. If an aggressive excisional approach is undertaken, excessive adhesions impairing fertility may ensue. Although most appearances of endometriosis are recognized by the reproductive surgeon, deeply infiltrating endometriosis may provide an obstacle to the laparoscopic surgeon.

Management options in current national and international endometriosis guidelines for women with endometriosis-associated pelvic pain include surgical removal of endometriosis and medical treatment with analgesics, ovarian suppressive drugs, and neuromodulators. ‘Surgical removal’ involves laparoscopic excision and/or ablation of the endometriosis, often undertaken at the time of initial laparoscopy to investigate pelvic pain. Establishing whether treating isolated SPE in women with chronic pelvic pain is clinically and cost-effective is important because this forms a large part of the workload in gynaecology and uses considerable resources. Around 30% of the direct health care costs of endometriosis are attributable to the cost of surgical treatment. Data from Scotland (population: 5.3 million, 51% women) indicate that 101,137 pelvic laparoscopies were performed in women from 1981 to 2010. An estimated 91,023 (90%) of these procedures were for investigation of chronic pelvic pain and, of these, 17,834 (20%) revealed a new diagnosis of endometriosis. Half of the women with endometriosis in this population underwent a further surgical procedure for this condition within 5 years. There is little scientific evidence to demonstrate whether surgical removal of isolated SPE (accounting for ~ 80% of the subtypes) improves overall symptoms and quality of life more than not surgically treating the endometriosis, or whether surgery could exacerbate symptoms (or even cause harm). In the most recent Cochrane review of ‘laparoscopic surgery for endometriosis’, the authors conclude that laparoscopic

removal improves 'Condition-associated pain' (cited as 'better' or improved') compared to diagnostic laparoscopy alone at 6 months (OR 6.58, 95% CI 3.31 to 13.10). Yet, this conclusion is based on data from only three randomised controlled trials (RCT), only one of which blinded the participants to their allocation, with a total of just 171 participants as well as an amalgam of different subtypes of endometriosis. Furthermore, only one unblinded RCT included in the analysis (just 69 participants) has follow-up data to 12 months showing benefit of surgery (OR 10.00, 95% CI 3.21 to 31.17), leading the authors to define the strength of the evidence as of moderate and low quality, respectively, for the two timepoints, using GRADE criteria . Furthermore, the uncertainty around surgical management of SPE is compounded by the limited evidence to allow an informed selection of specific surgical modalities to remove SPE, e.g. laparoscopic 'ablation' versus laparoscopic 'excision').

Consequently, the 2017 NICE Endometriosis Guideline recommends further research into the effectiveness of laparoscopic removal of SPE in isolation to manage endometriosis-associated pain . This research recommendation is also supported by the results of a recent UK and Ireland James Lind Alliance Priority Setting Partnership (PSP) Initiative for Endometriosis established to identify the key research questions that were most important to both women with endometriosis and healthcare practitioners involved in their care. If future research demonstrates that surgery is not effective for the treatment of pain associated with isolated superficial peritoneal disease, it is possible that this group of women could be spared an invasive surgical procedure, in particular if their pelvic imaging does not reveal any pathology (pelvic ultrasound or MRI, interpreted by an experienced operator, will diagnose ovarian and deep endometriosis subtypes). They could instead be offered investigations for other known causes of pelvic pain and early pain management (e.g. neuromodulator drugs, physiotherapy, and psychological approaches). Furthermore, it is conceivable that future research might demonstrate that surgery for SPE in isolation is not only.

CONCLUSION

Treatment of superficial endometriotic spots improves pain and fertility vs placebo no matter by excision or ablation.

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