Pelvic pain and endometriosis

S.Rouholamin
Laparoscopic fellowship
Isfahan University Of Medical Science

Pain Pathogenesis

Endometriotic lesions:

- inflammatory
- neuropathic components

Inadequate management: production of chronic pain with permanent affects

- Growth of endometriotic lesions stimulates the production of proinflammatory cytokines & growth factors in the peritoneal cavity.
- The subsequent inflammation is thought to lead to the associated neuropathic pain with peripheral nerve sensitization
- peritoneal fluid of women with endometriosis have demonstrated substantially increased level of inflammatory cytokines such as IL-1, 6, and 8; leptin; and TNF-α

Oh SB, Tran PB, Gillard SE, Hurley RW, Hammond DL, Miller RJ. Chemokines and glycoprotein120 produce pain hypersensitivity by directly exciting primary nociceptive neurons. J Neurosci. 2001;21(14):5027–35.

chronic neuropathic pain:

- high expression of nerve growth factor
- increased nerve density of endometriosis lesions
- direct innervation of endometriotic lesions

Anaf V, Simon P, El Nakadi I, et al. Hyperalgesia, nerve infiltration and nerve growth factor expression in deep adenomyotic nodules, peritoneal and ovarian endometriosis. Hum Reprod. 2002;17(7):1895–900

- medical management may be considered first line in treatment of endometriosis

Mettler L, Ruprai R, Alkatout I. Impact of medical and surgical treatment of endometriosis on the cure of endometriosis and pain.Biomed Res Int. 2014;2014:264653

treatment plan

- based on the severity of the patient's endometriosis-related pain
- excluded other causes of pelvic pain
- manage the patient's pain with medical therapy for as long as possible
- limit the number of surgical interventions

first line of treatment

- mild to moderate pain (pain symptoms that do not cause regular absence from school or work) and no ultrasound evidence of an endometrioma
- NSAIDs & continuous hormonal contraceptives
- low-risk, few side effects
- relief of symptoms for many women

- no data supporting superiority of one NSAID or hormonal contraceptive over another.
- Selection is based on patient preference, availability, and cost.
- For women who cannot or choose not to use estrogen therapy, we prescribe progestin-only contraceptive pills (ie, norethindrone 0.35 mg taken once daily) with an NSAID

- reassess the woman's symptoms after three to four months of combined treatment.
- Women with adequate symptom improvement are continued on the hormonal therapy/NSAID regimen until pregnancy is desired or the average age of menopause is reached.

- Women with severe symptoms (eg, regularly missing school or work because of pain), symptoms that do not respond to the above therapies, or recurrent symptoms are offered a trial of GnRH analog with add-back hormonal therapy or
- laparoscopy for diagnosis and treatment

laparoscopy for diagnosis and treatment

- Women whose pain does not respond to the above medical treatment
- Excision of endometrial implants, endometriomas, and adhesions is performed at the time of surgery.
- conservative (retain uterus and ovarian tissue)
- definitive (removal of the uterus and possibly the ovaries in women who have completed childbearing

treatment decisions

- individualized
- clinical presentation, symptom severity
- disease extent & location
- reproductive desires
- patient age
- medication side effects
- surgical complication rates
- cost
- combined approach is often used

surgery

- Persistent pain despite medical therapy
- Contraindications to or refusal of medical therapy
- Need for a tissue diagnosis of endometriosis
- Exclusion of malignancy in an adnexal mass
- Obstruction of the bowel or urinary tract

avoid surgery

- Women with incompletely evaluated pelvic pain
- Women with persistent pelvic pain after repeated surgeries
- Women nearing menopause

Conservative surgery

- first-line option
- preserves fertility and hormone production
- less invasive & morbid than definitive surgery
- documented short-term efficacy
- ablation of endometriotic lesions with the intent of preserving the uterus and as much ovarian tissue as possible

Laparoscopic surgery for endometriosis (Review)

Duffy JMN, Arambage K, Correa FJS, Olive D, Farquhar C, Garry R, Barlow DH, Jacobson TZ

THE COCHRANE COLLABORATION®

[Intervention Review]

Laparoscopic surgery for endometriosis

James MN Duffy[1], Kirana Arambage[2], Frederico JS Correa[3], David Olive[4], Cindy Farquhar[5], Ray Garry[6], David H Barlow[7], Tal Z Jacobson[8]

[1]Women's Health Research Unit, Blizard Institute of Cell and Molecular Science, London, UK. [2]Women's Centre, John Radcliffe Hospital, Oxford University Hospitals, Oxford, UK. [3]Department of Medicine, Catholic University of Brasília, Brasília, Brazil. [4]Wisconsin Fertility Institute, Middleton, Wisconsin, USA. [5]Department of Obstetrics and Gynaecology, University of Auckland, Auckland, New Zealand. [6]Gynaecological Surgery, University of Teeside and South Cleveland Hospital, Middlesbrough, Guisborough, UK. [7]Hamad Medical Corporation, Qatar, Qatar. [8]Department of Obstetrics and Gynaecology, Mater Mother's Hospital, Brisbane, Australia

Contact address: James MN Duffy, Women's Health Research Unit, Blizard Institute of Cell and Molecular Science, Barts and The London School of Medicine and Dentistry, 58 Turner Street, London, Greater London, E1 2AB, UK. jamesmnduffy@hotmail.co.uk.

Editorial group: Cochrane Menstrual Disorders and Subfertility Group.
Publication status and date: New, published in Issue 4, 2014.
Review content assessed as up-to-date: 31 July 2013.

Citation: Duffy JMN, Arambage K, Correa FJS, Olive D, Farquhar C, Garry R, Barlow DH, Jacobson TZ. Laparoscopic surgery for endometriosis. *Cochrane Database of Systematic Reviews* 2014, Issue 4. Art. No.: CD011031. DOI: 10.1002/14651858.CD011031.pub2.

We found that laparoscopic surgery may be of benefit in treating overall pain and subfertility associated with mild to moderate endometriosis Laparoscopic excision and ablation were similarly effective in relieving pain.

- disadvantage of conservative surgery is that the rate of recurrent symptoms is higher compared with definitive surgery
- rate of reoperation appears to increase over time for conservative surgery, whereas it remains relatively stable for definitive surgery

Surgical Treatment of Endometriosis

A 7-Year Follow-up on the Requirement for Further Surgery

Khashayar Shakiba, MD, James F. Bena, MS, Kimberly M. McGill, MD, Jill Minger, MD, and Tommaso Falcone, MD

OBJECTIVE: To investigate the need for further surgery after laparoscopic excision of endometriosis or hysterectomy.

METHODS: In this retrospective study, women who had surgery for endometriosis-associated pain at the Cleveland Clinic were assessed for requirement for subsequent surgery. One hundred twenty patients who underwent hysterectomy with or without oophorectomy for endometriosis and 120 patients who had laparoscopic excision of their endometriotic lesions only (local excision group) formed the study population. Estimates of reoperation-free survival at 2, 5, and 7 years were calculated using Kaplan-Meier methods, and estimates of risk (hazard ratios) were computed using Cox proportional hazards

CONCLUSION: Local excision of endometriosis is associated with good short-term outcomes but, on long-term follow-up, has a high reoperation rate. Hysterectomy is associated with a low reoperation rate. Preservation of the ovaries at the time of hysterectomy remains a viable option.

(Obstet Gynecol 2008;111:1285–92)

LEVEL OF EVIDENCE: II

Endometriosis affects 2.5% to 3.3% of women of reproductive age and is diagnosed in 20% to 68% of women with infertility or chronic pelvic pain. Hysterectomy often is used by gynecologists as defini-

CONCLUSION: Local excision of endometriosis is associated with good short-term outcomes but, on long-term follow-up, has a high reoperation rate. Hysterectomy is associated with a low reoperation rate.
Preservation of the ovaries at the time of hysterectomy remains a viable option.

Definitive surgery

- hysterectomy, with or without oophorectomy
- offered to women with debilitating symptoms that are likely from endometriosis, have completed childbearing, and have failed other treatment options

Hysterectomy

- persistent bothersome symptoms of endometriosis who do not plan future childbearing
- failed both medical therapy
- at least one conservative treatment procedure
- additional indications for hysterectomy (eg, symptomatic fibroids or prolapse)

- Hysterectomy alone is an effective treatment for pain symptoms of endometriosis, with a reoperation rate of 19 percent in one study, compared with a 58 percent reoperation rate for women undergoing conservative surgery.

- We counsel women that hysterectomy without bilateral salpingo-oophorectomy and conservative surgery are not equivalent in terms of preservation of hormonal function.

- Women who undergo hysterectomy with conservation of ovaries are likely to experience menopause one to four years earlier than women who retain their uterus
- Hysterectomy alone (ie, without bilateral salpingo-oophorectomy) is performed for women who desire pain control and preservation of ovarian hormonal function.

oophorectomy

- extensive adnexal disease
- those for whom the risks of reoperation outweigh the risks of premature menopause
- increases the efficacy of definitive surgery
- no data that establish an age-based cut-off for oophorectomy
- we tend to discourage oophorectomy in women younger than 40 years.

treatment of pain

- removal of the ovaries appears to be more effective than ovarian conservation in reducing endometriosis-related symptoms

A prospective study of 3 years of outcomes after hysterectomy with and without oophorectomy

Cynthia M. Farquhar, MBChB, FRANZCOG, MD, CREI, MPH,[a,b] Sally A. Harvey, RN, RMidwife,[a] Yi Yu, MSc,[a] Lynn Sadler, MBChB, MRANZCOG, MPH,[a,b] Alistair W. Stewart, BSc[b]

Department of Obstetrics and Gynecology, National Women's Hospital[a] and School of Population Health,[b] University of Auckland, Auckland, New Zealand

Received for publication June 20, 2005; revised August 4, 2005; accepted August 24, 2005

KEY WORDS
Hysterectomy
Oophorectomy
Patient satisfaction

Objective: This study was undertaken to determine the outcomes of hysterectomy with and without conservation of the ovaries.
Study design: Data were collected prospectively for 3 years from 257 women undergoing hysterectomy (group 1) and 57 women undergoing hysterectomy with oophorectomy (group 2).
Results: Pelvic pain, abdominal pain, and depression scores were reduced in the 3 years after hysterectomy. Twenty-one percent of the women in group 1 and 43% in group 2 regretted the loss of fertility 3 years after hysterectomy. Satisfaction with the operation was greater than 90% after 3

Three years after undergoing hysterectomy with and without oophorectomy, satisfaction is high although some women regret the loss of fertility

Laparoscopy versus laparotomy

- Laparoscopic surgery is generally preferred to laparotomy because it is associated with improved surgical visualization (from lens magnification), less pain, shorter hospital stay, quicker recovery, and better cosmetic outcome made based upon the same factors as used for other gynecologic indications

Meta-Analysis > J Minim Invasive Gynecol. 2021 Mar;28(3):587-597.
doi: 10.1016/j.jmig.2020.11.028. Epub 2020 Dec 10.

Excision versus Ablation for Management of Minimal to Mild Endometriosis: A Systematic Review and Meta-analysis

Channing Burks [1], Mabel Lee [2], Michael DeSarno [3], Joseph Findley [3], Rebecca Flyckt [2]

Affiliations + expand

PMID: 33310168 DOI: 10.1016/j.jmig.2020.11.028

Abstract

Objective: The aim of this systematic review and meta-analysis was to perform an updated analysis of the literature in regard to the surgical management of minimal to mild endometriosis. This study evaluated women of reproductive age with superficial endometriosis to determine if the results of surgical excision compared with those of ablation in improved pain scores postoperatively.

Data sources: The following databases were searched from inception to May 2020 for relevant studies: Cochrane Central Register of Controlled Trials, PubMed (MEDLINE), Ovid (MEDLINE), Scopus, and Web of Science.

On the basis of the data from our systematic review and pooled meta-analysis, no significant difference between laparoscopic excision and ablation was noted in regard to improving pain from minimal to mild endometriosis.
However, to make definitive conclusions on this topic, larger randomized controlled trials are needed with longer follow-up.

Thanks for your attention