This is the conclusion of the Consensus on Endometriosis, prepared by an ad hoc committee, on behalf of the Society of Obstetricians and Gynaecologists of Canada.

THE CANADIAN CONSENSUS CONFERENCE ON ENDOMETRIOSIS

HOW SHOULD ENDOMETRIOSIS BE TREATED SURGICALLY?

The indications for surgical management of endometriosis may include pain, the presence of a mass, and infertility. The surgical approach is dependent on the patient's needs, the severity of disease, the skill of the surgeon, and the availability of facilities.

There are virtually no randomized, blinded, and controlled studies of surgical therapy which have suitable outcome measures and analyses. This deficiency clearly limits the conclusions that can be drawn about the positive value of surgery.

"Conservative surgery" for endometriosis aims at complete removal of diseased tissues with conservation of the reproductive organs and restoration of normal pelvic anatomy using a technique to minimize trauma. Although extensive peritoneal excision has been suggested for mild disease, the effectiveness of this procedure has not been proven in a controlled study.

"Radical surgery" for endometriosis aims at removing all detectable disease, together with removal of the uterus, tubes, and ovaries. It is sometimes referred to as "definitive" surgery.

In the surgical management of the patient with endometriosis, the following issues must be considered:

1. SHOULD SURGICAL TREATMENT BE UNDERTAKEN AT THE TIME OF DIAGNOSIS?

Under ideal circumstances (skilled surgeon, appropriate facilities), the advantages of immediate treatment include avoidance of a second intervention, reduction of cost, and patient convenience.
2. **IS A LAPAROSCOPIC APPROACH PREFERABLE TO LAPAROTOMY?**

Compared with laparotomy, surgery using a laparoscopic approach is associated with reduced hospital stay, recovery period and costs.⁴ However, in terms of outcome, to date there is no evidence to suggest that either approach is superior.²⁸

3. **SHOULD R-AFS STAGE I AND II DISEASE BE TREATED SURGICALLY?**

Whereas preliminary evidence suggests improved pregnancy outcome with ablation of implants in Stage I and II disease,³⁸ well-designed prospective controlled studies are needed to confirm these apparent findings.

4. **ARE THERE PROVEN BENEFITS ASSOCIATED WITH ANY OF THE AVAILABLE SURGICAL METHODS (MECHANICAL, ELECTROSURGERY, LASERS)?**

There is no evidence to suggest difference in outcome related to the surgical method employed.⁷

5. **WHAT IS THE PLACE OF ADJUNCTIVE MEDICAL TREATMENT?**

Similarly, there is no evidence to suggest that adjunctive medical treatment improves outcome.³ However, in severe cases, preoperative, medical treatment may facilitate surgery and/or make a laparoscopic approach possible?

The surgical management of endometriosis associated with pain generates additional issues:

1. **DO PRESACRAL NEURECTOMY AND/OR SEGMENTAL UTERO-SACRAL LIGAMENT ABLATION PRODUCE LONG-TERM BENEFITS?**

There is no evidence that long-term benefits are derived from presacral neurectomy and segmental utero-sacral ligament ablation, especially when these procedures are performed in conjunction with conservative surgery. Nevertheless, short term relief has been reported in a blinded study with one-year follow-up. In addition to potential surgical complications, adverse effects include bowel and bladder dysfunction.

2. **WHAT IS THE PLACE OF RADICAL SURGERY?**

Radical surgery can be offered to symptomatic patients with severe disease in whom fertility is not desired.

Multiple conservative surgical procedures for infertility or pain are not justified by the published evidence. Where repeat conservative surgery does not resolve infertility or pain, radical surgery is appropriate if preservation of fertility is not desired. Assisted reproductive technology can be used when desired for the management of infertility. The place of conservation of one or both ovaries, or in the event of bilateral oophorectomy, the place of hormone replacement therapy, are issues that remain to be resolved.
small study showed an incidence of repeat surgery of 45.5 percent in women with a residual ovary and taking hormone replacement therapy, whereas 39 women with no residual ovary received hormone replacement therapy (HRT) and none required further surgery in five year follow-up. In another study of 109 women one out of 85 women with no residual tissue required a further laparotomy after starting HRT. In the group of 24 women with residual ovarian tissue followed for a mean of 3.4 years, six (25 percent) required further surgery during this period for the apparent recurrence of endometriosis related symptoms, mainly pelvic pain.

Some proponents of oophorectomy at the time of hysterectomy recommended only minimal low dose estrogen therapy due to the risk of recurrence of disease in a small proportion of patients. Malinak advocates the use of low dose estrogen only after an arbitrary postoperative delay of three to six months if active endometriosis is found at the time of surgery? The study by Henderson showed that no advantage is to be gained by delaying HRT after oophorectomy in the ten of 85 women treated in this fashion. Obviously, with such small studies forming the basis for recommendations, further research in this area is required.

REFERENCES


FUTURE DIRECTIONS

Uncertainty about endometriosis pervades all of the topics examined by the Consensus Conference. In drafting the Consensus Statements, the Committee noted areas where it was felt that emphasis in research and training would produce benefit for women with endometriosis and the physicians who provide their medical management. The Consensus Conference was in many ways a chastening experience for the members of each subcommittee, since a detailed review of the literature demonstrated how little reliable research has in fact been carried out in the area. As has been repeatedly pointed out, there is continuing uncertainty about the actual prevalence of the disease, its cause, its natural history, its clinical associations, and the most effective form of treatment of individual cases. Women with endometriosis-associated symptoms currently must seek medical care which may or not be helpful; they, and we, hope that current research will crystallize into knowledge that will help them.

Any suggestions for future directions for research and patient care are, of course, speculative. Nevertheless, there was consensus on the following areas:

1. PATIENT INFORMATION

The chief value of disseminating information about disease to the lay public is the consequent possibility of prevention. The study of menstrual characteristics conducted by Cramer, et al., showed that the value of exercise in preventing endometriosis should not be underestimated.' A young woman undertaking exercise for seven hours per week has an 80 percent reduction in the probability of developing endometriosis when compared with nonexercising women. As with proactive statements by physicians about the value of cardiovascular fitness in reducing cardiovascular disease, the notion of exercise for "reproductive fitness" warrants endorsement.
THE CONSENSUS COMMITTEE AGREED THAT:

1. SURGERY IS AN ACCEPTABLE TREATMENT FOR ENDOMETRIOSIS.

2. CONSERVATIVE SURGERY IS OF VALUE IN MANAGEMENT OF PATIENTS WITH PAIN, A PELVIC MASS, OR INFERTILITY ASSOCIATED WITH ANATOMICAL DISTORTION.

3. THE PLACE OF CONSERVATIVE SURGERY IN MANAGEMENT OF INFERTILITY NOT ASSOCIATED WITH ANATOMICAL DISTORTION IS CONTROVERSIAL.

4. THERE IS NO DIFFERENCE IN OUTCOME AFTER CONSERVATIVE SURGERY WHETHER IT IS PERFORMED BY LAPAROSCOPY OR BY LAPAROTOMY.

5. LAPAROSCOPIC SURGERY OFFERS THE ADVANTAGES OF REDUCED DISCOMFORT, SHORTER OPERATING TIME, AND SHORTER HOSPITAL STAY.

6. ASSISTED REPRODUCTIVE TECHNOLOGY IS AN ALTERNATIVE TO MULTIPLE CONSERVATIVE SURGICAL PROCEDURES IN INFERTILE PATIENTS.

7. INTRACTABLE PAIN WHICH HAS NOT RESPONDED TO MEDICAL OR CONSERVATIVE SURGICAL MANAGEMENT IS AN ACCEPTED INDICATION FOR RADICAL SURGERY.

8. THE OUTCOME OF SURGERY BY A SKILLED OPERATOR IS SIMILAR WHETHER THE SURGERY IS DONE BY MECHANICAL DISSECTION, ELECTROCAUTERY, OR LASER, WITH OR WITHOUT THE USE OF VIDEO EQUIPMENT.

REFERENCES


RECURRENT ENDOMETRIOSIS

RECURRENCES FOLLOWING MEDICAL MANAGEMENT

Recurrences following medical management may affect 16 to 52 percent of treated patients after one year, depending on the method of diagnosis and the type of treatment. Steroid receptors in endometriotic tissue differ in quantity and response from those in normal uterine endometrium. This partly accounts for the high recurrence rates after medical treatment, for example 33 percent with danazol, 25 percent with GnRH analogues, 31 percent with gestrinone, and 42 percent with medroxyprogesterone acetate. Failure to control recurrence depends on the rate of formation of new disease deposits and the inability to remove preexisting scarring and adhesions.

CONSERVATIVE SURGERY

Conservative surgery with conservation of pelvic organs is important where fertility is desired. However, it is associated with cumulative recurrence rates of 13 percent by three years and 40 percent by five years. Neither age, initial staging, nor the subsequent ability to conceive, significantly affected recurrence (unlike in other studies).

RECURRENCE OF DISEASE FOLLOWING ESTROGEN THERAPY:

No adverse effects of estrogen therapy on endometriosis are reported in five studies. Reports following the use of high dose synthetic estrogens such as mestranol or the inappropriate use of unopposed conjugated estrogens link hormone replacement and the development of endometriosis. Endometriosis can also persist in relatively hypoestrogenic states (episiotomy scars, cases of primary amenorrhoea, and a case of 46XY gonadal dysgenesis).

POSTMENOPAUSAL CASES

Postmenopausal cases of endometriosis may be influenced by high circulating levels of estrogen (from adrenal glands, peripheral conversion or exogenous sources), but in Kamper's study of 136 cases only one had a history of previous estrogen use. Other reports have shown that cyclical progestogen use, even after total abdominal hysterectomy, do not prevent the development of endometriosis.

Persistent disease postpregnancy is much commoner than regression. Wheeler and Malinak showed that after the surgical removal of all visible deposits, the average time to the recurrence of symptoms was 35 months (no pregnancy), 47 months (one pregnancy) and 67 months (two or more pregnancies.) Pregnancy did not add to the symptom-free interval.

RECURRENCE AFTER MAJOR SURGERY

When the decision is made to proceed to hysterectomy, there is much evidence that removal of both ovaries is good management and that the use of low dose hormone replacement is not associated with any adverse effects. A long term (5.9 year) follow-up study of 92 women treated conservatively for ovarian endometriosis, showed that 7.6 percent required further surgery, primarily for adhesive disease. Other studies addressing this issue showed that the risk of repeated surgery remains until the last ovarian remnant has been removed. One
Young women are generally aware of the value of regular exercise as part of a healthy lifestyle, and this can be positively reinforced if they are also informed about the preventive effect with respect to endometriosis.

Women must be aware that not all pelvic pain is primarily dysmenorrhea. Endometriosis is not confined to nulliparous women in their thirties and forties, and can be suspected in any woman of reproductive age. Women who have had the diagnosis confirmed are clearly motivated to seek further information about the condition. Consumer groups are valuable sources of information for them. In addition, consumer groups provide a visible justification for research funding in the field.

2. RESEARCH DIRECTIONS

i) SCREENING AND DETECTION.

Possibly the greatest barrier to liberal clinical research in endometriosis is the fact that invasive methods are required for diagnosis in virtually all cases. Serum screening and imaging techniques have been disappointing in their applicability. Nevertheless, such research may ultimately allow identification of a unique tissue antigen or imaging method for identifying endometriosis in a cost-effective manner.

ii) PATHOGENESIS

Until the mechanism by which endometriosis develops is understood, rational and universally effective treatment for the condition will remain elusive. Current directions in research suggest that endometriosis develops after aberrant “processing” of endometrial cells by peritoneal or tissue leukocytes. The role of sex steroids, other growth factors, and the significance of cytokines will need to be defined before a unifying theory of pathogenesis can be developed.

iii) CLINICAL ASSOCIATIONS

For clinicians, the most perplexing aspects of endometriosis management are the observed associations with pain and infertility. The associations have traditionally been assumed to be cause-and-effect, but more recent study has questioned these assumptions. The mechanism for pain production is not known. Infertility can be explained if there is distortion of the normal pelvic structures, but, if not, there is little clinical evidence to prove that the cause of infertility is endometriosis. Properly conducted studies, of sufficient statistical power to define these associations, must be performed.

iv) TREATMENT

Research into treatment for endometriosis has traditionally been funded largely by industry, while basic research has been funded by independent granting bodies. While the forms of medical treatment currently available can provide marked symptomatic relief, their use is predicated on assumptions about pathogenesis, growth, and clinical associations which may be incorrect. The funding from industry ideally should be channelled as much as possible into research which will define the nature of endometriosis, from which definition logical forms of treatment will come. Clinical studies of treatment obviously must be randomized, controlled, and blinded.
REFERENCES


The Canadian Consensus Conference Committee was composed of Dr. Glenn Brimacombe (CMA Economics Department), Dr. Stan Brown, Dr. David Cumming, Dr. Margo Fluker, Dr. Victor Gomel, Dr. Giliian Graves, Dr. Ellen Greenblatt, Dr. Philippe Laberge, Dr. André Lalonde, Executive Vice President of the SOGC, Dr. Art Leader, Dr. André Lemay, Dr. Bruno Lemieux, Barbara Mains (Endometriosis Association), Dr. Pierre Miron, Dr. Timothy Rowe, Guest Editor, Dr. Patrick Taylor, Editor-in-Chief of the SOGC Journal, and Dr. Ian Tummon.

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