

Improving the diagnosis of endometriosis in adolescents

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Endometriosis in adolescents is not a new manifestation of this disease; rather, rates of diagnosis are increasing as clinicians have become better at recognizing it in young women. Although endometriosis is traditionally diagnosed after the second or third decade, approximately one-third of patients with confirmed endometriosis experience their first symptom before age 15 years (FIGURE 1).¹ Yet receiving a timely diagnosis of endometriosis remains a challenge for women of all ages, and particularly so for patients whose symptoms start at a young age.²

Early recognition of symptoms, adequate diagnosis, and initiation of treatment is essential in preventing endometriosis progression, symptom worsening, and development of infertility.³ A protocol for evaluation and treatment of pelvic pain and endometriosis in adolescent patients—based on the specific considerations for this population—is described here (FIGURE 2).^{3,4} Vigilance on the part of the clinician may result in an earlier diagnosis and can improve a young woman's life.

Complaints of pain, not infertility

Unlike older women with endometriosis who seek medical attention due to infertility, pain, or both, adolescents with endometriosis seek medical attention predominantly in response to pain.³ In adolescents with chronic pelvic pain, the incidence of endometriosis is 25% to 38%, based on confirmation of disease through laparoscopy.^{5,6} This incidence increases to 50% to 70% of adolescents in whom conservative treatment with combination oral contraceptives (OCs) and



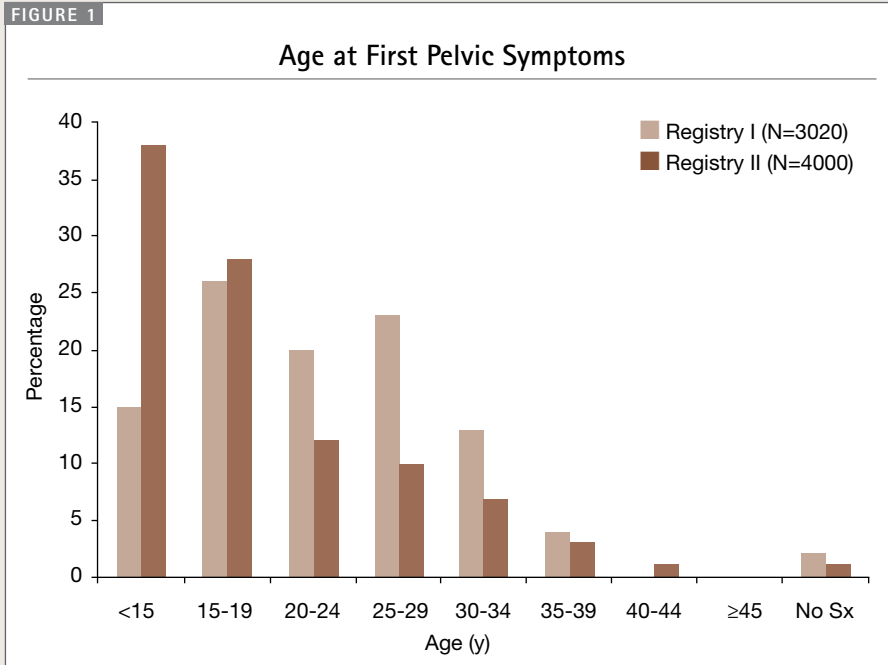
nonsteroidal anti-inflammatory drugs (NSAIDs) has failed.^{7,8}

Dysmenorrhea is the primary symptom in adolescent patients with laparoscopically confirmed endometriosis.⁹ Other symptoms that have been consistently reported in this population are: cyclic pain (9%, 67%),^{8,9} noncyclic pain (28%, 39%),^{8,9} gastrointestinal symptoms (34%, 67%),^{8,9} abdominal pain (58%),⁹ referred pain (31%),⁹ urinary symptoms (13%),⁸ irregular menses (9%),⁸ and vaginal discharge (6%).⁸

Physical examination of an adolescent patient

A thorough history and physical examination are necessary for the accurate diagnosis of endometriosis. Pelvic examination in the adolescent population can be challenging, especially in patients who have not had vaginal intercourse. It may be better not to attempt a bimanual pelvic exam in a virginal young woman but to rely instead on the clinical picture and—if needed—

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Sx, symptoms. Registry I (1980 to 1986) and Registry II (1998) were developed to obtain information about women with endometriosis.

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KEY POINT

Endometriosis is confirmed in 50% to 70% of adolescents whose pelvic pain fails to respond to NSAIDs and OCs.

ultrasonography; ultrasonography is not specific for the diagnosis of endometriosis.³ Alternatives to a bimanual examination include a rectal-abdominal examination. If a pelvic examination is carried out, the clinician should assess for the presence of both diffuse and local pelvic tenderness, as well as a displaced uterus or an adnexal mass.³

Medical management during a critical time for bone health

Medical therapy for endometriosis typically involves use of hormonal contraceptives, NSAIDs, and gonadotropin-releasing hormone (GnRH) agonists. For adolescents, who experience their most rapid period of bone mass accumulation between ages 11 and 15 years, it is particularly important to avoid or minimize any effect of treatment on bone health.

Hormonal contraceptives and NSAIDs

Combination therapy with OCs and NSAIDs is the most common initial empiric treatment offered to adolescent patients with suspected endometriosis. Use of OCs is not associated with a concomitant loss of bone mineral density (BMD)¹⁰⁻¹² and is effective in treating

pain.^{13,14} If effective, combination therapy with OCs and NSAIDs can be used safely for long-term management of the symptoms of endometriosis.³ Depot-medroxyprogesterone acetate has been used to treat endometriosis in adults, but it is associated with BMD loss and should be used judiciously in adolescents.¹⁰⁻¹²

If conventional medical therapy with an OC and NSAID fails to alleviate pain symptoms after a trial of 3 to 6 months, endometriosis should be suspected and a laparoscopic evaluation is warranted.³ Stage I or II endometriosis was found in 67% of adolescents who did not respond to conventional medical therapy.⁸

GnRH agonists

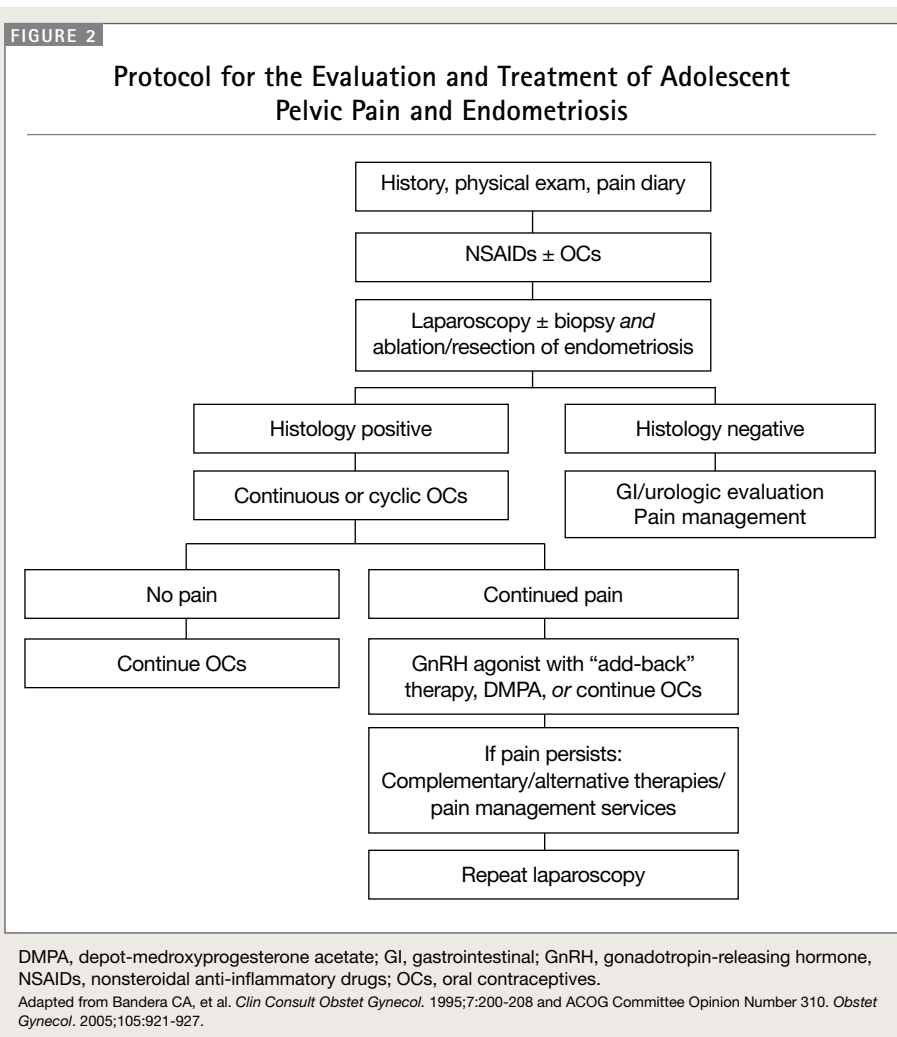
Empiric treatment with a GnRH agonist is common for older women, but it is not usually offered to patients younger than 18 years because of potential effects on BMD.^{3,15,16} For adolescents with laparoscopically confirmed endometriosis that has not responded to laparoscopic or conventional medical treatment, a GnRH agonist may be used with add-back therapy and careful monitoring.³

Add-back therapy with estrogen, progestin, or norethindrone acetate can



KEY POINT

Red lesions are predominant in adolescents and are highly associated with pain.



ameliorate the loss of BMD with a GnRH agonist.¹⁶⁻²⁰ Adolescents taking norethindrone acetate as add-back therapy with a GnRH agonist were evaluated in a retrospective review.¹⁶ Mean hip BMD Z score was normal in most patients (-0.24 ± 1.0), but almost one-third of patients had deficits at the spine (mean lumbar spine BMD Z score, 0.55 ± 1.1). The authors concluded that add-back therapy appears promising but that BMD must be well monitored in this population if GnRH agonists are used.

Laparoscopy: Look for "atypical" lesions

Aggressive surgical treatment, such as oophorectomy, that may impair fertility should be avoided in adolescent patients, even in severe cases of endometriosis.³ Laparoscopy can safely be offered to adolescent patients if empiric therapy fails to

treat their dysmenorrhea and a preoperative evaluation suggests endometriosis.

The standard technique and systemic investigation during laparoscopy includes a panoramic view and assessment of the vesicouterine peritoneum; anterior and posterior uterus; cul-de-sac and sigmoid; left ovarian fossa, ovary, and tube; right ovarian fossa, ovary, and tube; and the appendix and upper abdomen.

The appearance of endometriotic lesions in adolescents often differs from those seen in adults.³ Red lesions are predominant in adolescents with endometriosis (82%); pigmented (black/blue) (76%), vesicular (clear) (41%), and white (6%) lesions are also typical.⁷ Adolescents with cyclic or abdominal pain, nausea, constipation, and diarrhea during menses have the largest proportion of red lesions.⁹ Red, clear, and to some degree white and pigmented lesions found in patients with

TABLE

Lesion Locations in Adolescent Patients

Location	Patients With Superficial Lesions (n, %)	Patients With Deep (>3 mm) Lesions (n, %)
Broad ligament	26 (73%)	—
Cul-de-sac	25 (69%)	11 (31%)
Ovary	20 (56%)	7 (19%)
Uterosacral ligament	12 (33%)	21 (58%)
Rectum	11 (31%)	7 (19%)
Peritoneal pocket	6 (17%)	—
Bladder	—	4 (11%)

N=36 patients (aged 13-20 years) with severe dysmenorrhea.
Adapted from Davis GD, et al. *J Adolesc Health*. 1993;14:362-368.

endometriosis are more likely to be associated with pain.²¹ Lesions can be found in a number of locations and a large proportion are superficial (TABLE).⁹ While not the most common cause of an ovarian mass in adolescents, endometrioma do occur in this age group and preoperative pelvic ultrasound should be considered.⁹

Laparoscopic surgical treatment generally includes excision and/or ablation. Little about the outcome of radical excision treatment for severe endometriosis in adolescents has been reported to date, but one retrospective review shows that laparoscopic treatment improved or resolved pain symptoms.²²

Alternative approaches to pain management

Alternative therapies for pain can sometimes be effective for adolescent endometriosis. There is evidence to suggest that a multidisciplinary approach to pain improves patients' response to directed therapy and overall outcome. A cognitive and behavioral approach is recommended, emphasizing return to school, participation in social and family activities, and recognition of maladaptive behaviors. Such approaches include guided imagery, progressive muscle relaxation, biofeedback, acupuncture, and hypnosis.^{23,24} Adolescents should be given information about their condition and referred to resources specifically intended for them, such as www.youngwomenshealth.org/endoinfo.html.²⁵

There are limited data on use of antidepressants such as tricyclics and selective

serotonin reuptake inhibitors for pelvic pain, but patients with chronic pain and associated depressive symptoms may benefit from these agents.²⁶ Because of rare cases of sudden death associated with the use of tricyclic antidepressants, an electrocardiogram is needed in anyone with a history of cardiac disease or arrhythmia.²⁷

Conclusions

Adolescents with pelvic pain should be fully assessed to determine if they have endometriosis. Pelvic pain can interfere with school attendance, involvement in sports, and participation in social activities.³ The possibility of infertility later in life is of particular concern in young, symptomatic patients; indeed, an inverse relationship between stage of disease at diagnosis and later fecundity has been established.²⁸ Early diagnosis and treatment can decrease disease progression, allow patients to return to normal psychosocial development and self-esteem, improve academic performance, and facilitate return to normal daily activities.³ ■

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KEY POINT

Evidence shows that cognitive-behavioral therapy can improve a patient's response to directed therapy.

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