Cureus
Part of SPRINGER NATURE

Open Access Review Article

Elagolix for Endometriosis-Associated Pain: A Narrative Review and Indian Expert Consensus

Sanjay Gupte [1], Ramanidevi T [2], K D. Nayyar [3], PM Gopinath [4], Rooma Sinha [5], Jeyarani Kamaraj [6], Jayanthi Reddy [7], Mala Raj [8], Girija Wagh [9], Parag Biniwale [10], Sushma Deshmukh [11], Chaitanya Ganpule [12], Sachin Kulkarni [13], Shivani S. Gour [14], Onkar C. Swami [15], Kamal Kumar [15], Neeraj Kumar [15]

1. Obstetrics and Gynecology, Gupte Hospital, Pune, IND 2. Obstetrics and Gynecology, Ramakrishna Medical Centre LLP, Tiruchirappalli, IND 3. Obstetrics and Gynecology, Akanksha IVF Centre, Mata Chanan Devi Hospital, New Delhi, IND 4. Reproductive Medicine, Kauvery Hospital, Chennai, IND 5. Obstetrics and Gynecology, Apollo Health City, Hyderabad, IND 6. Obstetrics and Gynecology, Aakash Fertility Centre and Hospital, Chennai, IND 7. Obstetrics and Gynecology, JJ Hospital, Hyderabad, IND 8. Obstetrics and Gynecology, FIRM Hospitals, Chennai, IND 9. Obstetrics and Gynecology, Bharati Vidyapeeth, Pune, IND 10. Obstetrics and Gynecology, Biniwale Clinic, Pune, IND 11. Obstetrics and Gynecology, Central India Test Tube Centre, Nagpur, IND 12. Obstetrics and Gynecology, Yash IVF Hospital, Pune, IND 13. Obstetrics and Gynecology, Pristine Women's Hospital, Kolhapur, IND 14. Obstetrics and Gynecology, SCI Healthcare and SCI IVF Hospital, Delhi, IND 15. Medical Services, Alembic Pharmaceuticals Ltd., Mumbai, IND

Corresponding author: Kamal Kumar, kamal.kumar@alembic.co.in

Review began 10/14/2026
Review ended 11/01/2026
Published 11/09/2026

© **Copyright** 2026
Gupte et al. This is an open access article distributed under the terms of the Creative Commons Attribution License CC-BY 4.0., which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

DOI: 10.7759/cureus.119395

Abstract

Endometriosis is a chronic, estrogen-dependent disorder that places a considerable physical, psychosocial, and economic burden on women of reproductive age in India. Diagnostic delays, variation in clinical presentation, and uncertainty regarding the optimal use of newer oral therapies continue to complicate routine care. Elagolix, an oral gonadotropin-releasing hormone (GnRH) receptor antagonist, has recently been approved in India for the treatment of moderate to severe endometriosis-associated pain; however, guidance tailored to Indian clinical practice has been lacking.

To address this unmet need, an expert consensus was developed to provide practical recommendations for the evaluation and management of endometriosis, with a specific focus on the positioning of elagolix in women who are not actively pursuing fertility. A structured modified Delphi approach was used, beginning with statement development by a steering committee, followed by regional expert panel discussions across India and anonymous validation using a 5-point Likert scale. Consensus was obtained with at least 75% agreement among participating experts.

Eleven consensus statements were finalized, addressing early recognition, diagnostic strategies, empirical medical treatment, and the appropriate selection, dosing, and monitoring of elagolix. The panel emphasized early diagnosis, skilled transvaginal ultrasonography as first-line imaging, and medical therapy as the foundation of pain management in non-fertility-seeking women. Elagolix was recognized as an effective oral option for selected patients, particularly those with inadequate response or intolerance to first-line hormonal therapies, when used with individualized risk-benefit assessment.

These consensus recommendations aim to support informed, context-appropriate decision-making and optimize long-term medical management of endometriosis-associated pain in routine clinical practice.

Categories: Urology, Obstetrics/Gynecology, Pain Management
Keywords: elagolix, endometriosis, endometriosis-related pain, gnrh antagonist, indian consensus

Introduction And Background

In India, endometriosis poses a significant clinical and socioeconomic burden, affecting an estimated 42 million women [1]. It contributes to dysmenorrhea (77%), chronic pelvic pain (34%), and dyspareunia (23%) [2]. Endometriosis is also reported in up to 30% of adolescent girls presenting with secondary dysmenorrhea [1]. Furthermore, among infertile women undergoing diagnostic laparoscopy in Indian tertiary care centers, endometriosis was identified in 22.3%-48.4% of women, highlighting its substantial contribution to infertility in clinical practice [3,4]. Beyond its physical manifestations, endometriosis is strongly associated with anxiety, depression, reduced productivity, and impaired social functioning, collectively contributing to substantial socioeconomic burden and a marked decline in quality of life [5,6]. Pharmacological management for endometriosis has evolved from non-steroidal anti-inflammatory drugs (NSAIDs) and estrogen-progesterone combined pills to progestins, and later to gonadotropin-releasing hormone (GnRH) agonists and antagonists. While NSAIDs and combined oral contraceptives (COCPs) can reduce inflammatory symptoms, they have a limited impact on disease progression and often fail to provide adequate and sustained control of chronic pain or address infertility [7]. Progestins such as dienogest have demonstrated efficacy in reducing pelvic pain and preventing post-surgical recurrence in long-term studies [8]. However, bleeding irregularities and mood-related adverse effects are among the more commonly

reported adverse events with dienogest. Changes in bone mineral density (BMD) are generally small in adult women but may be of greater concern in adolescents and younger patients [9].

Later, GnRH agonists became a mainstay for moderate to severe endometriosis pain, acting through pituitary receptor downregulations [10]. Nevertheless, their use is limited by an initial symptom flare, pronounced hypoestrogenic adverse effects (including vasomotor symptoms and bone loss), parenteral administration, and the requirement for add-back therapy to mitigate side effects and preserve bone health [10,11].

GnRH antagonists induce a rapid onset of clinical effects, without the flare-up effect seen with agonists. GnRH antagonists have been used for the treatment of pathological conditions, such as endometriosis and uterine fibroids. Elagolix, an oral non-peptide GnRH antagonist, was recently approved in India for moderate to severe pain associated with endometriosis and has demonstrated its efficacy and an acceptable safety profile in global clinical trials [12].

In addition to elagolix, other oral GnRH antagonists have demonstrated efficacy in the management of endometriosis-associated pain. Relugolix combination therapy (relugolix 40 mg, estradiol 1 mg, and norethisterone acetate 0.5 mg) significantly improved dysmenorrhea and non-menstrual pelvic pain compared with placebo in the phase 3 SPIRIT 1 and SPIRIT 2 trials, while minimizing bone mineral density loss through concomitant add-back therapy [13]. Similarly, linzagolix demonstrated significant reductions in endometriosis-associated pain in the phase 3 EDELWEISS 3 trial, with sustained efficacy observed in the EDELWEISS 6 extension study [14]. These findings support the expanding role of oral GnRH antagonists in endometriosis management [15]. However, while relugolix-containing therapies are approved in India for uterine fibroids, they are not currently approved for endometriosis-associated pain, and linzagolix is currently neither approved nor available in India [16].

Rationale of consensus

Elagolix received regulatory approval in India in August 2024 and is supported by global evidence for the management of endometriosis-associated pain [13,16]. Currently, there are no published studies evaluating its use in Indian patients with endometriosis. To address this evidence gap and provide context-relevant use in routine Indian clinical practice, an expert consensus was developed.

Review

Methodology

The development of consensus statements on the role of elagolix in endometriosis care within the Indian clinical context required a structured, transparent, and inclusive approach to address real-world practice.

We considered a structured modified Delphi approach to generate clinically actionable consensus statements. In this, we incorporated face-to-face discussion after the development of draft statements by the steering committee. This allowed experts to clarify interpretations, examine evidence collectively, and resolve disagreements through discussion. Since the 5-point Likert scale is simple, familiar, and widely used in the modified Delphi approach, we incorporated this voting method. This helped us capture expert agreement more clearly and in a way that aligns well with current Indian consensus practices [17]. This initiative is aimed at developing consensus-based recommendations for the diagnosis and management of endometriosis in India, with particular emphasis on women who are not currently seeking infertility treatment [18].

Steering committee

A steering committee comprising six obstetrics and gynecology experts was constituted to lead the consensus process. Members were selected based on their clinical expertise (>15 years of experience) in gynecology, academic contributions to the field, and willingness to participate. The steering committee was responsible for drafting the initial consensus statements.

Development of draft consensus statements

The consensus process began with a literature review conducted by a steering committee to identify knowledge gaps and formulate preliminary statements. A literature search was performed in PubMed, Google Scholar, and the Cochrane Library using terms such as “elagolix,” “endometriosis,” “GnRH antagonists,” “endometriosis in India,” “endometriosis guidelines,” “consensus,” and “endometriosis pain management,” restricted to publications from 2015 to 2025. Based on the evidence retrieved, 13 provisional statements were drafted across three domains: diagnosis, management of endometriosis, and role of elagolix.

Constitution of expert panel

Considering the heterogeneity in the patient population and endometriosis care, experts were selected to

ensure broad geographic representation across the country. A total of 74 experts were organized into 6 expert panels; a total of 12 obstetrics and gynecology specialists were part of each of the 5 expert panels, and in the sixth expert panel, a total of 14 obstetrics and gynecology specialists were involved. Selection of experts was based on predefined inclusion criteria, which required a minimum of 10 years of clinical experience.

Refinement of consensus statements through regional panel meetings

A total of six round-table meetings were conducted across India to refine the preliminary consensus statements. Sites included Chennai, Delhi, Hyderabad, Mumbai, Nagpur, and Pune. At each site, a two-hour meeting was conducted, which followed a standardized agenda: (a) presentation of current statements with supporting evidence (20 minutes) and (b) discussion of each statement among the experts based on real clinical practice and guideline recommendations. Across these meetings, 42 actionable suggestions were generated. Based on collective expert deliberation, 2 statements were removed (Appendix I), and the final set of 11 consensus statements was established (Figure *1*).

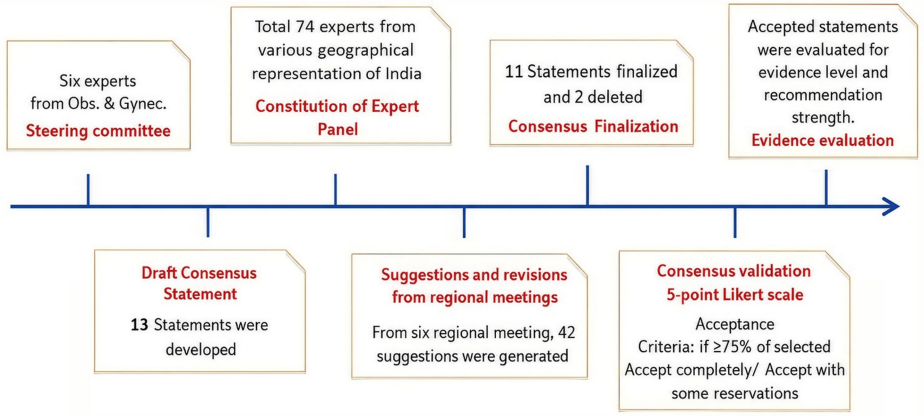


FIGURE 1: Modified Delphi approach for the consensus development

Consensus validation

Independent validation of the finalized statements was conducted using a 5-point Likert scale anonymous voting process involving all 74 experts. The finalized 11 draft statements were circulated to all the experts via mail, and responses were collected through a structured Google Form. The voting options included “accept completely,” “accept with some reservations,” “accept with major reservations,” “reject with reservations,” and “reject completely.” A statement was labeled “accepted” if ⩾75% of respondents selected either “accept completely” or “accept with some reservations”. Similarly, a statement was considered rejected if 75% or more of the participants opted for “reject completely” or “reject with reservations.” Consensus voting was used only to determine agreement with the statements.

For statements that achieved consensus, the Level of Evidence (LoE) and Strength of Evidence (SoE) were assigned separately by the steering committee based on appraisal of the supporting literature using a modified framework adapted from the Canadian Task Force on the Periodic Health Examination, as summarized in Table *1* [19].

Quality of Evidence		Strength of Evidence	
Grade	Description	Grade	Description
I	Evidence obtained from at least one RCT	A	There is good evidence to support the statement
II-1	Evidence from well-controlled trials without randomization	B	There is fair evidence to support the statement
II-2	Evidence from a well-designed cohort or case-control study	C	There is poor evidence to support the statement
II-3	Evidence from comparisons between time or place with or without intervention	D	There is fair evidence to refute the statement
III	Opinion of experienced authorities and expert committees	E	There is good evidence to refute the statement

TABLE 1: Quality and Strength of Evidence

RCT: randomized controlled trial

Ethical approval

Ethical approval was not required for this consensus study, as the recommendations were developed through expert opinion and review of published literature, without the involvement of patients, human participants, or identifiable personal data.

Expert consensus

Evaluation and Diagnosis of Endometriosis

Statement 1: Awareness, early referral, and timely management of endometriosis can reduce morbidity and recurrence, and improve quality of life (consensus percentage: 100% (accept completely: 83.8%, accept with some reservation: 16.2%), LoE: II-2, SoE: C).

International guidelines consistently emphasize early recognition and referral to reduce diagnostic delay and improve outcomes. The 2022 ESHRE and 2024 NICE guidelines strongly recommend prompt evaluation and referral to specialized care pathways to minimize disease progression and enhance quality of life [20,21]. Evidence from a systematic review and meta-analysis shows that postoperative dienogest therapy significantly reduces recurrence after conservative surgery compared with no postoperative hormonal treatment, underscoring the broader principle that early and appropriate medical management can mitigate recurrence risk [22]. Additionally, a prospective cohort study of 205 women reported greater quality-of-life improvement when treatment was initiated at earlier stages of disease, reinforcing the clinical value of early intervention [23]. Collectively, these findings highlight that awareness, early referral, and timely management are pivotal determinants of long-term outcomes in endometriosis care.

Statement 2: A comprehensive evaluation with detailed menstrual, family, and systemic history is essential, as non-specific cyclical or persistent symptoms may indicate underlying endometriosis (consensus percentage: 100% (accept completely: 63.5%, accept with some reservation: 36.5%), LoE: III, SoE: B).

Diagnosis of endometriosis remains largely symptom-driven, and a normal ultrasound does not exclude disease when clinical suspicion is high. ESHRE and NICE guidelines emphasize comprehensive history taking, including menstrual characteristics, pain patterns, infertility history, and family history, to reduce diagnostic delay [20,21]. A large prospective two-phase observational study across 19 hospitals (n=1,396) demonstrated that structured symptom-based models modestly predicted any-stage disease (area under the curve (AUC): ~0.68) and more accurately predicted stage III/IV disease (AUC: ~0.85), supporting systematic history and symptom phenotyping to prioritize referral pathways [24]. Familial predisposition further strengthens clinical suspicion. NICE-based summaries and observational data indicate that a first-degree relative with endometriosis increases disease likelihood and may be associated with advanced-stage presentation [25,26]. Implementing standardized history parameters and structured pain phenotyping in outpatient settings may help shorten diagnostic pathways and align management with patient goals.

Statement 3: In women with suspected endometriosis, transvaginal ultrasound (TVUS) is the preferred first-line investigation, with transabdominal ultrasound or magnetic resonance imaging (MRI) reserved for

clinically indicated cases (consensus percentage: 91.9% (accept completely: 70.3%, accept with some reservation: 21.6%), LoE: II-1, SoE: A).

Meta-analyses confirm that transvaginal ultrasound (TVUS) has high diagnostic accuracy for deep endometriosis, with a pooled sensitivity of 0.85 and a specificity of 0.92, comparable to magnetic resonance imaging (MRI) (sensitivity: 0.83, specificity: 0.95) [27,28]. Current ESHRE guidelines recommend skilled TVUS as first-line imaging for suspected endometriosis, particularly for ovarian endometriomas and deep lesions, with MRI reserved for complex mapping or equivocal findings [20]. Complementary evidence from Cochrane reviews and international imaging consensus statements confirms that neither TVUS nor MRI can reliably exclude superficial peritoneal disease, but these modalities together provide accurate mapping of clinically significant lesions to guide management decisions [29,30]. Collectively, these data support an evidence-based, resource-sensitive approach in which TVUS is used first, with MRI or transabdominal ultrasound reserved for cases where clinically indicated.

Statement 4: Cancer antigen 125 (CA-125) is not recommended for routine diagnosis or exclusion of endometriosis but may be used to monitor disease progression in conservatively managed patients (consensus percentage: 91.9% (accept completely: 59.5%, accept with some reservation: 32.4%), LoE: I, SoE: A).

Cancer antigen 125 (CA-125) demonstrates limited sensitivity (~52%) but relatively high specificity (~93%) at thresholds ⩾30 U/mL, functioning as a rule-in rather than rule-out test [31]. A Cochrane diagnostic review concluded that no blood biomarker, including CA-125, is sufficiently accurate to replace diagnostic evaluation or be recommended for routine clinical diagnosis [32]. However, limited observational data suggest that rising CA-125 levels may correlate with recurrence in select postoperative populations. While not suitable for screening or exclusion, CA-125 may have adjunctive value in longitudinal monitoring under specific clinical circumstances [20,21]. Overall, CA-125 should not be used to exclude disease but may be selectively employed for monitoring in individualized management strategies.

Management of Endometriosis

Statement 5: In women with clinically suspected endometriosis not seeking fertility, empirical therapy with progestins may be initiated prior to or alongside diagnostic modalities (consensus percentage: 90.6% (accept completely: 56.8%, accept with some reservation: 33.8%), LoE: I, SoE: A).

Major guidelines, including ESHRE, NICE, and FOGSI guidelines, endorse empirical hormonal therapy without mandatory diagnostic laparoscopy in symptomatic women not seeking pregnancy [20,21,33]. In resource-sensitive settings, accessible and cost-effective options such as progestins and levonorgestrel-releasing intrauterine (LNG-IUS) remain pragmatic first-line choices. Empirical therapy should be aligned with patient preferences, bleeding patterns, and tolerability, with symptomatic response guiding further escalation [20,21,33]. Before initiating empirical therapy, appropriate clinical evaluation should be undertaken to exclude alternative causes of pelvic pain and clinically significant adnexal pathology that may require further investigation or management [27].

A meta-analysis of randomized controlled trials (RCTs) demonstrated significant pain reduction compared with placebo (standardized mean difference (SMD): -0.61; 95% confidence interval (CI): -0.77 to -0.45) [21,34-36]. Contemporary network meta-analyses further confirm the efficacy of progestin-only regimens across pain domains, supporting their role as appropriate initial therapy in symptomatic patients not pursuing pregnancy [34,37].

Statement 6: In women not seeking fertility, medical therapy, including hormonal interventions, should be offered as first-line treatment to reduce endometriosis-associated pelvic pain (consensus percentage: 95.9% (accept completely: 60.8%, accept with reservation: 35.1%), LoE: I, SoE: A).

A 2024 network meta-analysis of 45 RCTs demonstrated consistent reductions in dysmenorrhea, dyspareunia, and overall pelvic pain with combined oral contraceptives (COCPs) and progestins compared with placebo [38]. Long-term randomized data (PRE-EMPT trial, n=405) showed sustained pain improvement at three years with either long-acting progestogens or COCPs following surgery, supporting the durability of hormonal suppression strategies [39]. Guidelines consistently recommend NSAIDs combined with hormonal suppression as first-line therapy, reserving surgery for refractory symptoms, complications, or fertility indications [20,40]. These findings reinforce medical therapy as the cornerstone of initial management in non-fertility-seeking women, with shared decision-making central to optimizing long-term adherence and outcomes.

Elagolix in the Management of Endometriosis Pain

Elagolix is an oral, non-peptide GnRH receptor antagonist. Elagolix 150 mg and 200 mg tablets were approved for the management of moderate to severe pain associated with endometriosis by the US FDA in July 2018 and by the Drugs Controller General of India (DCGI) in August 2024. In women with normal liver

function or mild hepatic impairment (Child-Pugh A), elagolix is typically prescribed at 150 mg once daily for up to 24 months; however, in those experiencing significant dyspareunia, a higher dose of 200 mg twice daily may be used for a shorter duration of up to 6 months. For patients with moderate hepatic impairment (Child-Pugh B), treatment should be limited to 150 mg once daily for no more than six months. Elagolix is contraindicated during pregnancy, in women with osteoporosis or severe hepatic dysfunction (Child-Pugh C), and in those receiving strong Organic Anion Transporting Polypeptide 1B1 (OATP1B1) inhibitors [41].

Pharmacokinetic evaluations demonstrate rapid oral absorption (median time to peak concentration ≈ 1 hour). Plasma protein binding was 80%. Exposure (area under the plasma concentration-time curve (AUC)) and Cmax were reduced by 24 and 36%, respectively, when elagolix was administered with a high-fat meal relative to fasting. The elimination half-life is approximately 4-6 hours. The pharmacokinetic properties of elagolix are not affected to a clinically meaningful extent by body weight, body mass index, or race/ethnicity [42].

Elagolix binds competitively to pituitary GnRH receptors, blocking endogenous GnRH signaling. Elagolix produces rapid and dose-dependent suppression of luteinizing hormone (LH) and follicle-stimulating hormone (FSH), resulting in reduced ovarian estradiol concentrations and attenuation of estrogen-dependent endometriotic activity. In contrast to GnRH agonists, elagolix does not cause an initial flare and allows graded suppression of estradiol, with median estradiol levels reduced to approximately 42 pg/mL with 150 mg once daily and 12 pg/mL with 200 mg twice daily in phase 3 studies [43,44].

In the pivotal ELARIS EM-I and EM-II trials, both 150 mg once daily and 200 mg twice daily regimens significantly improved dysmenorrhea and non-menstrual pelvic pain compared with placebo at three months, with sustained responses through six months. Dysmenorrhea responder rates ranged from 43.4% to 46.4% with elagolix 150 mg once daily and 72.4% to 75.8% with elagolix 200 mg twice daily, compared with 19.6% to 22.7% with placebo. Corresponding responder rates for non-menstrual pelvic pain were 49.8%-50.4% and 54.5%-57.8% with the respective elagolix regimens, compared with 36.5% in placebo-treated women [43]. Extension studies further demonstrated maintenance of response up to 12 months in a substantial proportion of women, alongside improvements in dyspareunia and reductions in rescue analgesic use, translating into clinically meaningful enhancement of patient-reported outcomes and quality of life [45]. Across trials, elagolix was generally well tolerated; the most common adverse events included hot flushes, headache, nausea, insomnia, and mood changes, with dose-dependent decreases in bone mineral density (BMD) supporting defined duration limits of therapy.

Dose-dependent increases in serum lipid parameters, including low-density lipoprotein (LDL) cholesterol and triglycerides, have also been observed with elagolix therapy [46,47].

Most clinical guidelines recommend GnRH antagonists such as elagolix as a second-line treatment for endometriosis. A substantial number of women with endometriosis exhibit progesterone resistance, which can limit the effectiveness of progestin-based therapies. Elagolix provides a mechanistically appropriate option for these patients, offering therapeutic benefit when progestins fail to produce adequate results. Collectively, its oral administration, rapid onset, dose flexibility, and well-characterized benefit-risk profile position elagolix as a valuable therapeutic option within individualized, long-term management strategies for endometriosis-associated pain [42].

Statement 7: There is clinical evidence supporting elagolix for the management of endometriosis-associated pelvic pain, although it is not necessarily the first-line therapy (consensus percentage: 89.2% (accept completely: 67.6%, accept with reservation: 21.6%), LoE: I, SoE: A).

Phase 3 trials of elagolix demonstrated significant reductions in dysmenorrhea and non-menstrual pelvic pain with elagolix compared to placebo at three months and sustained till six months [43]. A systematic review/meta-analysis validates these benefits across pain domains (overall pain, dysmenorrhea, non-menstrual pelvic pain, and dyspareunia), while noting higher rates of non-serious adverse events relative to placebo [44]. Long-term extension studies demonstrate sustained pain reduction for up to 12 months; however, dose-related decreases in BMD may occur and require monitoring of bone health [45]. These findings establish elagolix as an effective therapeutic option, typically positioned after failure or intolerance of first-line hormonal therapies.

Statement 8: Elagolix 150 mg once daily is recommended for moderate to severe pain associated with endometriosis for up to 24 months. Elagolix 200 mg BID is a considerable option for moderate to severe pain associated with dyspareunia for 6 months, followed by 150 mg once daily (consensus percentage: 93.3% (accept completely: 67.6%, accept with reservation: 25.7%), LoE: I, SoE: A).

Dosing of elagolix should be individualized according to symptom severity and patient characteristics. The 150 mg once-daily regimen may be administered for up to 24 months in women with moderate symptoms, whereas the 200 mg twice-daily regimen is recommended for up to 6 months in those with severe pain, particularly when dyspareunia is prominent. Limitation of treatment duration is dose-dependent and driven by a reduction in BMD due to reduced estrogen level; elagolix is contraindicated in severe hepatic

impairment and requires restriction in moderate hepatic impairment [43,46].

Efficacy and dose selection are supported by phase 3 trials and meta-analyses. In the ELARIS EM-I and EM-II studies (N≈1,700), both 150 mg once daily and 200 mg twice daily significantly improved dysmenorrhea and non-menstrual pelvic pain compared with placebo at 3-6 months, demonstrating clear dose-dependent effects. Improvements in dyspareunia were more pronounced and consistent with the 200 mg twice-daily regimen, supporting its use in women with prominent dyspareunia. Long-term extension studies (EM-III and EM-IV) confirmed maintenance of pain relief for up to 12 months, while also demonstrating dose-related declines in BMD that justify defined duration limits and step-down strategies [43,45,46].

Statement 9: Elagolix can be considered as an alternative option for women with endometriosis-associated pelvic pain not responding to prior therapies (consensus percentage: 89.2% (accept completely: 62.2%, accept with reservation: 27.0%), LoE: II-3, SoE: B).

For women with inadequate response or intolerance to prior therapies (e.g., progestins/COCPs), elagolix is a reasonable alternative, supported by extension studies (EM-III and EM-IV) demonstrating sustained efficacy and acceptable safety over 12 months. Advantages include rapid onset, no flare, oral administration, predictable reversibility, and the option of add-back therapy to support longer-term tolerability [45,48]. In India, elagolix provides a non-injectable choice aligned with patient preferences; selection should consider cost, access, and monitoring capacity [49,50].

Statement 10: Compared to GnRH agonists, elagolix 150 mg once daily for up to 24 months reported lower bone mineral density-related side effects, minimizing the need for add-back therapy (consensus percentage: 91.9% (accept completely: 55.4%, accept with reservation: 36.5%), LoE: III, SoE: C).

Elagolix shows dose-dependent BMD reduction, smaller at 150 mg QD than at 200 mg BID, and does not mandate add-back therapy as per label [46,48].

A recent systematic review and meta-analysis of randomized controlled trials reported significantly less bone mineral density reduction with GnRH antagonists than with GnRH agonists. However, bone mineral density changes remain dose- and duration-dependent and should be considered when selecting treatment duration and monitoring strategies [51].

Emerging evidence suggests that concomitant add-back therapy (estradiol 1 mg plus norethindrone acetate 0.5 mg) may attenuate BMD loss during extended treatment, particularly when higher doses are used [52].

Accordingly, clinicians should proactively counsel patients that elagolix may cause dose-related hypoestrogenic adverse effects, most commonly hot flushes/night sweats, headache, nausea, insomnia, and mood changes, which are generally more frequent at higher doses. Given the dose- and duration-dependent impact on bone mineral density, therapy should be aligned to the lowest effective dose and appropriate duration, with bone health risk assessment (and BMD assessment when clinically indicated) incorporated into follow-up, particularly in women with additional risk factors [46,47,53].

Patients should be informed that menstrual bleeding may decrease or stop, which can reduce the ability to recognize pregnancy, and pregnancy testing should be performed if pregnancy is suspected. We recommend advising effective non-hormonal contraception during treatment and for 28 days after discontinuation and noting that estrogen-containing contraceptives may reduce elagolix efficacy. Clinicians should also counsel on red flag symptoms and promptly evaluate patients with new or worsening depression/anxiety or suicidal ideation, or symptoms suggestive of liver injury (e.g., jaundice or dark urine), with reassessment of benefit and risk if such events occur [46,47,53].

Statement 11: Elagolix may be considered as a first-line therapy for selected patients with endometriosis, such as those with dyspareunia (consensus percentage: 90.6% (accept completely: 56.8%, accept with reservation: 33.8%), LoE: I, SoE: B).

Although guidelines recommend progestins/COCPs as first-line therapy, the expert panel acknowledged scenarios in which elagolix may be an appropriate initial option. These include intolerance or contraindication to estrogen- or progestin-based therapies, patient preference for a non-contraceptive oral agent, or the need for rapid, reversible ovarian suppression [20].

Progestin intolerance is clinically relevant in routine practice. Cohort data with dienogest report discontinuation rates approaching 20% within the first year, most commonly due to irregular bleeding, mood changes, reduced libido, and vaginal dryness [54,55].

In such women, an oral GnRH antagonist offers a non-progestin mechanism of action. However, as current guidelines do not formally position elagolix as first-line therapy, its use in this context should be individualized and supported by shared decision-making, with appropriate documentation of risks and

benefits (Figure 2 and Figure 3) [31,46].

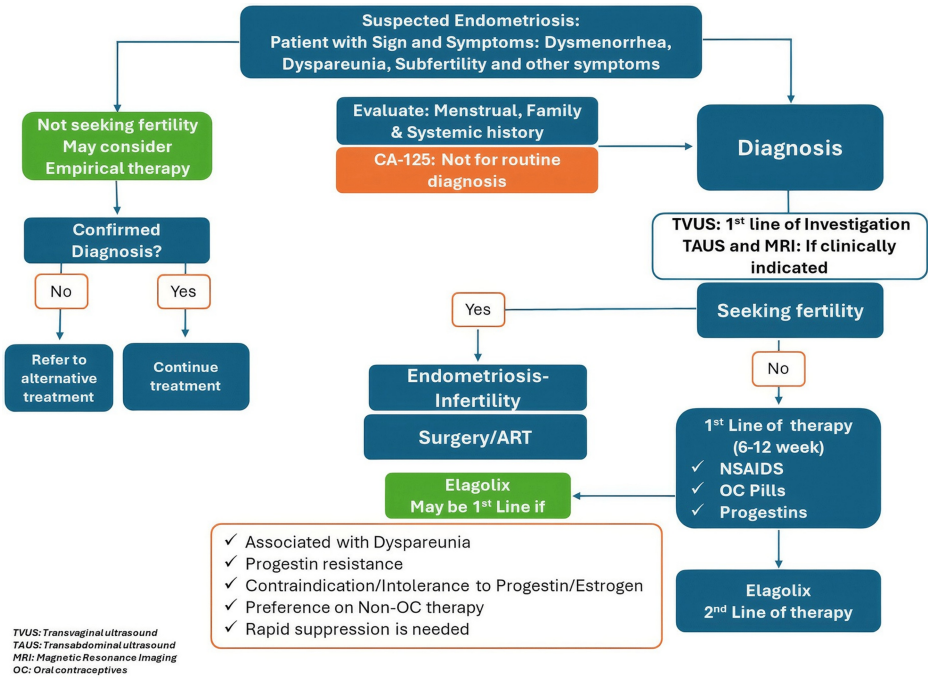


FIGURE 2: Algorithm for the management of endometriosis

ART: assisted reproductive technology, CA-125: cancer antigen 125, MRI: magnetic resonance imaging, NSAID: non-steroidal anti-inflammatory drug, OC: oral contraceptive, TVUS: transvaginal ultrasound, TAUS: transabdominal ultrasound

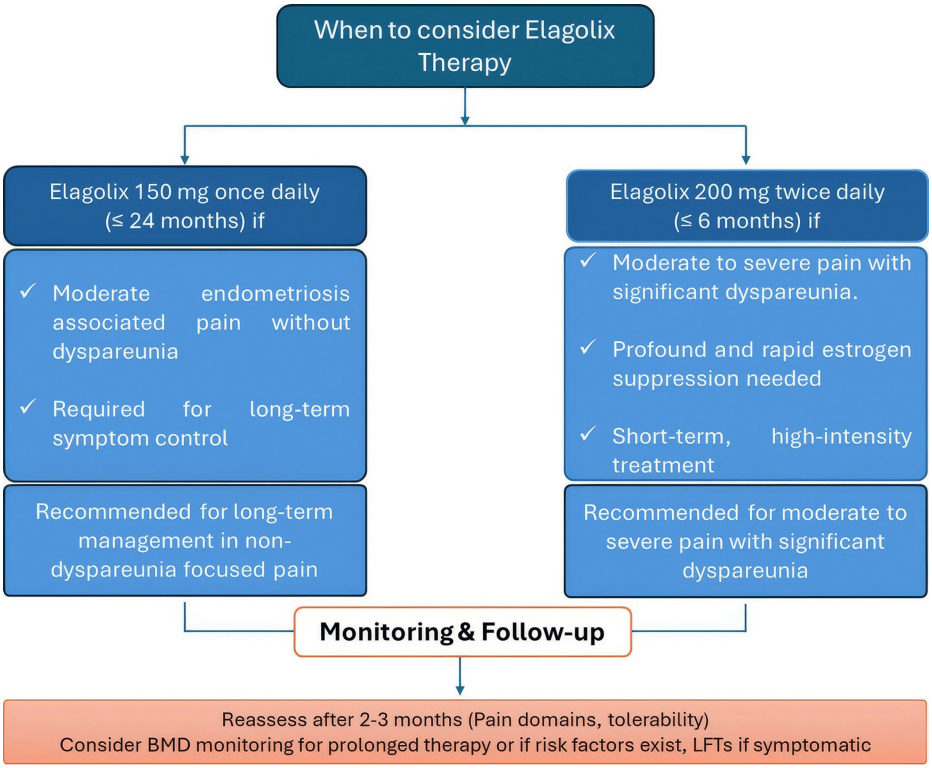


FIGURE 3: Elagolix use in endometriosis management

BMD: bone mineral density, LFT: liver function test

To support shared decision-making and safe, appropriate use of elagolix, patients should be counselled on expected hypoestrogenic effects, contraception requirements, and red flag symptoms. A brief checklist of routine practice is provided in Table 2.

Before initiating
Exclude pregnancy (or start within 7 days of menses)
Counsel: bleeding may reduce/stop, so pregnancy may be harder to recognize
Non-hormonal contraception during treatment and for 28 days after stopping
Consider/check baseline lipid profile
Bone risk screen; BMD scan (DEXA) if risk factors for osteoporosis or when treatment beyond 12 months is anticipated; do not use in known osteoporosis
Mood history screen (depression/anxiety/suicidality)
Review liver history; counsel on liver injury symptoms
Discuss treatment cost/affordability
During treatment
Explain common AEs: hot flush/night sweats, headache, nausea, insomnia, mood changes
Bone protection: calcium/vitamin D + weight-bearing activity
If continuing in risk patients, repeat BMD at ~1 year (as clinically indicated)
Follow-up and stop/urgent review
Schedule follow-up at 4-6 weeks and ~3 months
Stop if pregnant; evaluate promptly if pregnancy suspected
Urgent review: new/worsening depression, anxiety, suicidal thoughts/behavior
Urgent review: jaundice/dark urine or other liver injury symptoms

TABLE 2: Checklist for patient counseling for elagolix

BMD: bone mineral density, AE: adverse events

Final Consensus Statements

Based on evidence, experts agreed on the following statements in the meeting (Table 3).

	Consensus statements	Consensus percentage	LoE and SoE
Section 1: Evaluation and diagnosis of endometriosis			
1	Awareness, early referral, and timely management of endometriosis can reduce morbidity and recurrence, and improve quality of life.	100%	II-2, C
2	A comprehensive evaluation with detailed menstrual, family, and systemic history is essential, as non-specific cyclical or persistent symptoms may indicate underlying endometriosis.	100%	III, B
3	In women with suspected endometriosis, transvaginal ultrasound is the preferred first-line investigation, with transabdominal ultrasound or MRI reserved for clinically indicated cases.	91.9%	II-1, A
4	CA-125 is not recommended for routine diagnosis or exclusion of endometriosis but may be used to monitor disease progression in conservatively managed patients	91.9%	I, A
Section 2: Management of endometriosis and role of elagolix			
5	In women with clinically suspected endometriosis not seeking fertility, empirical therapy with progestins may be initiated prior to or alongside diagnostic modalities.	90.6%	I, A
6	In women not seeking fertility, medical therapy, including hormonal interventions, should be offered as first-line treatment to reduce endometriosis-associated pelvic pain.	95.9%	I, A
7	There is clinical evidence supporting elagolix for the management of endometriosis-associated pelvic pain, although it is not necessarily the first-line therapy.	89.2%	I, A
8	Elagolix 150 mg OD is recommended for moderate to severe pain associated with endometriosis for up to 24 months. Elagolix 200 mg BID is a considerable option for moderate to severe pain associated with dyspareunia for 6 months, followed by 150 mg OD.	93.3%	I, A
9	Elagolix can be considered as an alternative option for women with endometriosis-associated pelvic pain not responding to prior therapies.	89.2%	II-3, B
10	Compared to GnRH agonists, elagolix 150 mg once daily for up to 24 months reported lower bone mineral density-related side effects, minimizing the need for add-back therapy.	91.9%	III, C
11	Elagolix may be considered as a first-line therapy for selected patients with endometriosis, such as those with dyspareunia.	90.6%	I, B

TABLE 3: Final consensus statements

All recommendations regarding elagolix in this consensus apply to adult women (≥18 years of age) unless otherwise specified.

CA-125: cancer antigen 125, LoE: Level of Evidence, MRI: magnetic resonance imaging, OD: once daily, SoE: Strength of Evidence

Limitations

This expert consensus has certain limitations. First, the recommendations are based on a structured literature review and expert opinion rather than a formal systematic review or meta-analysis, which may introduce selection bias. Although the level and strength of evidence were graded using a modified framework adapted from the Canadian Task Force on the Periodic Health Examination, the grading process relied on expert assessment and was not supported by a formal systematic evidence review, which may introduce subjectivity in evidence interpretation and recommendation development.

Second, the consensus process involved a single round of anonymous voting following regional expert discussions. While this approach facilitated broad participation, it may have limited opportunities for iterative refinement of statements and reassessment of areas of disagreement. The expert panel consisted exclusively of obstetricians and gynecologists with experience in endometriosis management and therefore may not fully reflect the perspectives of other relevant stakeholders, including reproductive endocrinologists, pain specialists, primary care physicians, and multidisciplinary care teams.

Third, patient representatives were not involved in the consensus development process. Consequently, patient preferences, experiences, and patient-reported outcomes may not be fully represented in the final recommendations.

Fourth, although a structured consensus methodology and anonymous expert voting were employed to minimize bias, the possibility of perceived conflict of interest cannot be completely excluded.

Fifth, variability in real-world clinical practices and limited India-specific data on elagolix may affect the generalizability of the recommendations. Furthermore, the scope of this consensus was focused specifically on elagolix and did not include a systematic comparative evaluation of other GnRH antagonists or alternative medical therapies for endometriosis, which may limit broader treatment comparisons.

Finally, as emerging evidence continues to evolve, some recommendations may require future updates to remain aligned with the latest clinical data and guidelines.

Conclusions

Endometriosis continues to impose a substantial clinical and socioeconomic burden in India, with persistent delays in diagnosis and variability in therapeutic pathways. In the absence of Indian patient-specific data on elagolix, this consensus was developed to provide structured, context-relevant guidance for its rational integration into routine practice, particularly among women not seeking fertility. The consensus emphasized the "diagnose early, treat early" paradigm, prioritizing skilled transvaginal ultrasonography for timely detection and initiating empirical hormonal therapy in appropriate non-fertility-seeking women to reduce morbidity, limit recurrence, and improve quality of life. Within this framework, elagolix represents an oral GnRH antagonist that offers rapid, titratable suppression without flare, aligning well with patient preferences for non-injectable, reversible therapy in routine practice. Across phase 3 trials and extension studies, elagolix has demonstrated clinically meaningful reductions in dysmenorrhea and non-menstrual pelvic pain, with the 200mg BID regimen showing utility when dyspareunia is a prominent symptom; the 150mg OD regimen provides durable control for up to 24months in appropriately selected patients. When individualized through shared decision-making, considering bone health, mood, hepatic status, and contraceptive counseling, elagolix can help more patients realize the benefits of medical management earlier in their disease course.

This consensus provides practical direction for patient selection, dosing, monitoring, and positioning of elagolix in endometriosis care. Future research should generate real-world Indian data, clarify optimal sequencing and add-back strategies, and explore the role of GnRH antagonism in related gynecologic conditions such as adenomyosis and uterine fibroids, thereby strengthening the long-term evidence base for personalized endometriosis management.

Appendices

Appendix I

The two statements that were excluded from the final consensus are shown in Table *4*.

Statement	Consensus outcome
Elagolix may be considered for heavy menstrual bleeding associated with uterine leiomyomas in premenopausal women.	Excluded from final consensus due to off-label indication
GnRH antagonists (elagolix) may be considered for uterine fibroids with coexisting adenomyosis.	Excluded from final consensus due to off-label indication

TABLE 4: Statements excluded from the final consensus

Additional Information

Author Contributions

All authors have reviewed the final version to be published and agreed to be accountable for all aspects of the work.

Acquisition, analysis, or interpretation of data: Kamal Kumar, Rooma Sinha, Jeyarani Kamaraj, Jayanthi Reddy, Mala Raj, Parag Biniwale, Sushma Deshmukh, Chaitanya Ganpule, Sachin Kulkarni, Neeraj Kumar, K D. Nayyar

Drafting of the manuscript: Kamal Kumar, Neeraj Kumar

Supervision: Kamal Kumar, Onkar C. Swami

Concept and design: Sanjay Gupte, Ramanidevi T, PM Gopinath, Girija Wagh, Onkar C. Swami, Shivani S. Gour

Critical review of the manuscript for important intellectual content: Sanjay Gupte, Ramanidevi T, PM Gopinath, Rooma Sinha, Jeyarani Kamaraj, Jayanthi Reddy, Mala Raj, Girija Wagh, Parag Biniwale, Sushma Deshmukh, Chaitanya Ganpule, Sachin Kulkarni, Onkar C. Swami, K D. Nayyar, Shivani S. Gour

Disclosures

Conflicts of interest: In compliance with the ICMJE uniform disclosure form, all authors declare the following: **Payment/services info:** All authors have declared that no financial support was received from any organization for the submitted work. **Financial relationships:** All declare(s) Funding for publication from Alembic Pharmaceuticals Ltd. Alembic Pharmaceuticals Ltd. supported the article processing and publication charges for this manuscript. Dr. Onkar Swami, Dr. Kamal Kumar, and Mr. Neeraj Kumar declare(s) employment from Alembic Pharmaceuticals Ltd., which actively markets Elagolix. **Other relationships:** All authors have declared that there are no other relationships or activities that could appear to have influenced the submitted work.

Acknowledgements

The authors extend sincere thanks to the 74 clinicians who actively participated in the discussions during the expert meeting and were instrumental in the development of the consensus statements presented in this manuscript. The authors would also like to thank Dr. Heena Bhojwani and Ms. Divya Aher for reviewing, editing, and submitting this manuscript. The artificial intelligence (AI) tool Microsoft Copilot was utilized to assist with language refinement and grammar correction.

References

1. Gajbhiye RK: Endometriosis and inflammatory immune responses: Indian experience . Am J Reprod Immunol. 2023, 89:e13590. 10.1111/aji.13590
2. Bendigeri T, Warty N, Sawant R, et al.: Endometriosis: clinical experience of 500 patients from India . Indian Pract. 2015, 68:33-40.
3. Varghese N, Shanmugam I, Sivamani H, Durairaj A: Prevalence and risk factors of endometriosis among infertile women in a tertiary care center in South India. Cureus. 2024, 16:e71772. 10.7759/cureus.71772
4. Mishra VV, Gaddagi RA, Aggarwal R, Choudhary S, Sharma U, Patel U: Prevalence; characteristics and management of endometriosis amongst infertile women: a one year retrospective study. J Clin Diagn Res. 2015, 9:QC01-3. 10.7860/JCDR/2015/13687.6125
5. Perricos A, Wenzl R: Recent advances in endometriosis pathophysiology and pharmacological treatment . Int J Mol Sci. 2024, 25:10.3390/ijms25126575
6. Elizur SE, Mostafa J, Berkowitz E, Orvieto R: Endometriosis and infertility: pathophysiology, treatment strategies, and reproductive outcomes. Arch Gynecol Obstet. 2025, 312:1037-48. 10.1007/s00404-025-08124-1
7. Rafique S, Decherney AH: Medical management of endometriosis. Clin Obstet Gynecol. 2017, 60:485-96. 10.1097/GRF.0000000000000292
8. Capezzuoli T, Vannuccini S, Mautone D, et al.: Long-term hormonal treatment reduces repetitive surgery for endometriosis recurrence. Reprod Biomed Online. 2021, 42:451-6. 10.1016/j.rbmo.2020.09.018
9. Murji A, Biberoğlu K, Leng J, Mueller MD, Römer T, Vignali M, Yarmolinskaya M: Use of dienogest in endometriosis: a narrative literature review and expert commentary. Curr Med Res Opin. 2020, 36:895-907. 10.1080/03007995.2020.1744120
10. Surrey ES: GnRH agonists in the treatment of symptomatic endometriosis: a review . F S Rep. 2023, 4:40-5. 10.1016/j.xfre.2022.11.009
11. Donnez J, Dolmans MM: GnRH antagonists with or without add-back therapy: a new alternative in the management of endometriosis?. Int J Mol Sci. 2021, 22: 10.3390/ijms222111342
12. Martínez-Núñez EN, Carvallo-Ruiz DE, Núñez-Troconis JT: Gynecological uses of GnRH antagonists: review article. Obstet Gynecol Int J. 2022, 13:226-38. 10.15406/ogij.2022.13.00654
13. Giudice LC, As-Sanie S, Arjona Ferreira JC, et al.: Once daily oral relugolix combination therapy versus placebo in patients with endometriosis-associated pain: two replicate phase 3, randomised, double-blind, studies (SPIRIT 1 and 2). Lancet. 2022, 399:2267-79. 10.1016/S0140-6736(22)00622-5
14. Donnez J, Becker C, Taylor H, et al.: Linzagolix therapy versus a placebo in patients with endometriosis-associated pain: a prospective, randomized, double-blind, phase 3 study (EDELWEISS 3). Hum Reprod. 2024, 39:1208-21. 10.1093/humrep/deae076
15. Donnez J, Taylor HS, Taylor RN, et al.: Treatment of endometriosis-associated pain with linzagolix, an oral gonadotropin-releasing hormone-antagonist: a randomized clinical trial. Fertil Steril. 2020, 114:44-55. 10.1016/j.fertnstert.2020.02.114
16. Central Drugs Standard Control Organisation: CDSCO approved drugs/vaccines/r-DNA/blood product . (2026). Accessed: August 7, 2026: https://cdscoonline.gov.in/CDSCO/cdscoDrugs.
17. Nasa P, Jain R, Juneja D: Delphi methodology in healthcare research: how to decide its appropriateness . World J Methodol. 2021, 11:116-29. 10.5662/wjm.v11.i4.116
18. Murphy MK, Black NA, Lamping DL, McKee CM, Sanderson CF, Askham J, Marteau T: Consensus development methods, and their use in clinical guideline development. Health Technol Assess. 1998, 2:1-88. 10.3310/hta2030
19. The Periodic Health Examination: 2. 1984 update. Canadian Task Force on the Periodic Health Examination .

Can Med Assoc J. 1984, 130:1278-85.
20. Becker CM, Bokor A, Heikinheimo O, et al.: ESHRE guideline: endometriosis. Hum Reprod Open. 2022, 2022:hoac009. 10.1093/hropen/hoac009
21. Endometriosis: Diagnosis and Management. National Institute for Health and Care Excellence (NICE), London; 2024.
22. Zakhari A, Edwards D, Ryu M, Matelski JJ, Bougie O, Murji A: Dienogest and the risk of endometriosis recurrence following surgery: a systematic review and meta-analysis. J Minim Invasive Gynecol. 2020, 27:1503-10. 10.1016/j.jmig.2020.05.007
23. Kaveh M, Moghadam MN, Safari M, Chaichian S, Kashi AM, Afshari M, Sadegi K: The impact of early diagnosis of endometriosis on quality of life. Arch Gynecol Obstet. 2025, 311:1415-21. 10.1007/s00404-025-07999-4
24. Nnoaham KE, Hummelshoj L, Kennedy SH, Jenkinson C, Zondervan KT: Developing symptom-based predictive models of endometriosis as a clinical screening tool: results from a multicenter study. Fertil Steril. 2012, 98:692-701.e5. 10.1016/j.fertnstert.2012.04.022
25. Metzler JM, Imesch P, Dietrich H, Knobel C, Portmann L, Neumeier MS, Merki-Feld GS: Impact of family history for endometriosis, migraine, depression and early menopause on endometriosis symptoms, localization and stage: a case control study. Eur J Obstet Gynecol Reprod Biol. 2024, 293:36-43. 10.1016/j.ejogrb.2023.12.016
26. Rajesh S, Mehmeti A, Smith-Walker T, Kendall B: Diagnosis and management of endometriosis: summary of updated NICE guidance. BMJ. 2025, 388:q2782. 10.1136/bmj.q2782
27. Daniilidis A, Grigoriadis G, Dalakoura D, D'Alterio MN, Angioni S, Roman H: Transvaginal ultrasound in the diagnosis and assessment of endometriosis-an overview: how, why, and when. Diagnostics (Basel). 2022, 12:10.3390/diagnostics12122912
28. Xu Z, Li Y, Wang Y, Wan Y, Chen J: Transvaginal ultrasound and magnetic resonance imaging in detecting rectosigmoid deep infiltrating endometriosis: a comparative meta-analysis. Front Med (Lausanne). 2025, 12:1552185. 10.3389/fmed.2025.1552185
29. Nisenblat V, Bossuyt PM, Farquhar C, Johnson N, Hull ML: Imaging modalities for the non-invasive diagnosis of endometriosis. Cochrane Database Syst Rev. 2016, 2:CD009591. 10.1002/14651858.CD009591.pub2
30. Condous G, Gerges B, Thomassin-Naggara I, et al.: Non-invasive imaging techniques for diagnosis of pelvic deep endometriosis and endometriosis classification systems: an international consensus statement(). Hum Reprod Open. 2024, 2024:hoae029. 10.1093/hropen/hoae029
31. Hirsch M, Duffy J, Davis CJ, Nieves Plana M, Khan KS: Diagnostic accuracy of cancer antigen 125 for endometriosis: a systematic review and meta-analysis. BJOG. 2016, 123:1761-8. 10.1111/1471-0528.14055
32. Nisenblat V, Bossuyt PM, Shaikh R, et al.: Blood biomarkers for the non-invasive diagnosis of endometriosis . Cochrane Database Syst Rev. 2016, 2016:CD012179. 10.1002/14651858.CD012179
33. Barbara G, Buggio L, Facchin F, Vercellini P: Medical treatment for endometriosis: tolerability, quality of life and adherence. Front Glob Womens Health. 2021, 2:729601. 10.3389/fgwh.2021.729601
34. Mitchell JB, Chetty S, Kathrada F: Progestins in the symptomatic management of endometriosis: a meta-analysis on their effectiveness and safety. BMC Womens Health. 2022, 22:526. 10.1186/s12905-022-02122-0
35. FOGSI-ICOG Good Clinical Practice Recommendations (GCPR) Updates in Endometriosis Management . Endometriosis Committee, 2026.
36. Vercellini P, Buggio L, Berlanda N, Barbara G, Somigliana E, Bosari S: Estrogen-progestins and progestins for the management of endometriosis. Fertil Steril. 2016, 106:1552-71.e2. 10.1016/j.fertnstert.2016.10.022
37. As-Sanie S, Mackenzie SC, Morrison L, Schrepf A, Zondervan KT, Horne AW, Missmer SA: Endometriosis: a review. JAMA. 2025, 334:64-78. 10.1001/jama.2025.2975
38. Csirzó Á, Kovács DP, Szabó A, et al.: Comparative analysis of medical interventions to alleviate endometriosis-related pain: a systematic review and network meta-analysis. J Clin Med. 2024, 13:10.3390/jcm13226932
39. Cooper KG, Bhattacharya S, Daniels JP, et al.: Long acting progestogens versus combined oral contraceptive pill for preventing recurrence of endometriosis related pain: the PRE-EMPT pragmatic, parallel group, open label, randomised controlled trial. BMJ. 2024, 385:e079006. 10.1136/bmj-2023-079006
40. Patel M: Recent trends in medical management of endometriosis . J Obstet Gynaecol India. 2024, 74:479-83. 10.1007/s13224-024-02097-y
41. Lamb YN: Elagolix: first global approval. Drugs. 2018, 78:1501-8. 10.1007/s40265-018-0977-4
42. Shebley M, Polepally AR, Nader A, et al.: Clinical pharmacology of elagolix: an oral gonadotropin-releasing hormone receptor antagonist for endometriosis. Clin Pharmacokinet. 2020, 59:297-309. 10.1007/s40262-019-00840-7
43. Taylor HS, Giudice LC, Lessey BA, et al.: Treatment of endometriosis-associated pain with elagolix, an oral GnRH antagonist. N Engl J Med. 2017, 377:28-40. 10.1056/NEJMoa1700089
44. Quishpe M, Endara-Mina J, Caizapanta J, et al.: Efficacy of elagolix and relugolix for the treatment of pelvic pain in patients with endometriosis: a systematic review. Cureus. 2025, 17:e92149. 10.7759/cureus.92149
45. Surrey E, Taylor HS, Giudice L, et al.: Long-term outcomes of elagolix in women with endometriosis: results from two extension studies. Obstet Gynecol. 2018, 132:147-60. 10.1097/AOG.0000000000002675
46. Elagolix prescribing information. (2026). Accessed: August 7, 2026: https://www.accessdata.fda.gov/drugsatfda_docs/label/2021/210450s004s005s006lbl.pdf.
47. Leyland N, Estes SJ, Lessey BA, Advincula AP, Taylor HS: A clinician's guide to the treatment of endometriosis with elagolix. J Womens Health (Larchmt). 2021, 30:569-78. 10.1089/jwh.2019.8096
48. Archer DF, Watts N, Gallagher C, et al.: Long-term effect of elagolix on bone mineral density: results from two phase 3 extension studies in women with endometriosis-associated pain. Fertil Steril. 2017, 108:E95. 10.1016/j.fertnstert.2017.07.292
49. Betiuk Z, Błażyca M, Bartoszczyk M, Kutyła K, Gierulska N, Tarkowski R, Kułak K: Current evidence and emerging directions in endometriosis pharmacotherapy: a systematic review of recent advances. J Clin Med.

2026, 15:10.3390/jcm15187238

50. Wang ST, Johnson SJ, Mitchell D, Soliman AM, Vora JB, Agarwal SK: Cost-effectiveness of elagolix versus leuprolide acetate for treating moderate-to-severe endometriosis pain in the USA. J Comp Eff Res. 2019, 8:337-55. 10.2217/cer-2018-0124
51. Liu T, Cai Y, Li M, et al.: Gonadotropin-releasing hormone antagonists versus agonists for endometriosis: a systematic review and meta-analysis of randomized controlled trials. Front Endocrinol (Lausanne). 2026, 17:1979544. 10.3389/fendo.2026.1979544
52. Miller CE, Kim JH, Kroll R, et al.: Efficacy, tolerability, and bone density outcomes of elagolix with add-back therapy for endometriosis-associated pain: twelve months of an ongoing randomized phase 3 trial. Am J Obstet Gynecol. 2024, 231:630.e1-630.e13. 10.1016/j.ajog.2024.06.040
53. ORILISSA patient counseling aid. (2026). Accessed: August 7, 2026: https://www.orilissa.com/hcp/endometriosis-specialist-resources/patient-counseling.
54. La Torre F, Vannuccini S, Toscano F, Gallucci E, Orlandi G, Manzi V, Petraglia F: Long-term treatment for endometriosis with dienogest: efficacy, side effects and tolerability. Gynecol Endocrinol. 2024, 40:2336121. 10.1080/09513590.2024.2336121
55. Nirgianakis K, Vaineau C, Agliati L, McKinnon B, Gasparri ML, Mueller MD: Risk factors for non-response and discontinuation of dienogest in endometriosis patients: a cohort study. Acta Obstet Gynecol Scand. 2021, 100:30-40. 10.1111/aogs.13969