

Endometriosis is a common estrogen-dependent, chronic inflammatory disease in women of reproductive age, for which progesterone is recommended as first-line therapy in international guidelines. This review summarizes the mechanisms and clinical applications of dydrogesterone, focusing on its benefits in endometriosis.

Summary of Clinical Evidences

Outcome	Study / Population	Key Results
Pain (Dysmenorrhea + Chronic Pelvic Pain)	Taniguchi et al. (multicenter dysmenorrhea study)	<ul style="list-style-type: none"> • ~2.18-point reduction in dysmenorrhea score • ~21% reduction in menstrual symptom severity
	Sukhikh et al. (ORCHIDEA study)	<ul style="list-style-type: none"> • Significant reduction in dysmenorrhea & chronic pelvic pain • ~82% reduction in analgesic use • Improved sexual QoL
	Trivedi et al. (post-laparoscopy study)	<ul style="list-style-type: none"> • Pelvic pain reduced by 95% • Dysmenorrhea reduced by 87% • Dyspareunia reduced by 85%
	Overton et al. (randomized placebo-controlled trial)	Pain relief was achieved; ovulation was not suppressed
Menstrual Parameters	Trivedi et al.	Bleeding days reduced (4.45 → 3.99 days); reduced menstrual volume
Ovarian Endometrioma Size	Kitawaki et al. (open-label multicenter study)	~50% reduction in cyst size
Pain Score (Endometrioma)	Kitawaki et al.	Pain score improved: $5.7 \pm 1.27 \rightarrow 3.97 \pm 1.01$
Fertility Ovulation	Overton et al.	Ovulation was preserved during treatment
Post-Surgical Pregnancy Rate	Orazov et al.; Makhmudova et al. (surgery + dydrogesterone vs surgery alone)	~1.5x higher pregnancy rate; 20% conceived within 6 months; 30% shortly after treatment
Inflammatory Markers (Combination)	Sun et al. (letrozole combination study)	Greater reduction in E2, VEGF, CA125, IL-6, TNF- α vs letrozole alone

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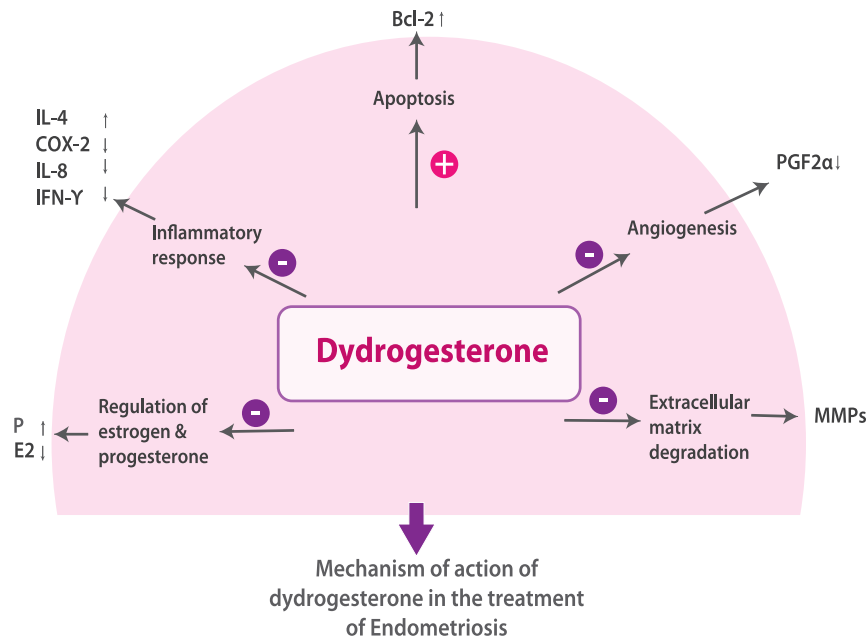


Mechanism of action of dydrogesterone in the treatment of endometriosis



Dydrogesterone inhibits ectopic endometrial proliferation by-

- Regulating estrogen and progesterone
- Slowing down progesterone metabolism & antagonizing estrogen
- Reducing the inflammatory response through multiple factors
- Inhibiting ectopic endothelial proliferation by inhibiting angiogenesis
- Reducing invasive migration of ectopic cells by inhibiting extracellular matrix degradation
- Inducing ectopic endometrial atrophy via a pro-apoptotic pathway



Conclusion

Dydrogesterone effectively reduces pain and lesion size in endometriosis while preserving ovulation and fertility. With proven clinical benefits and a favorable safety profile, it represents a reliable long-term therapeutic option.

Ref: Tang W, Zhu X, Bian L, Zhang B. Research progress of dydrogesterone in the treatment of endometriosis. Eur J Obstet Gynecol Reprod Biol. 2024;296:120-125. doi:10.1016/j.ejogrb.2024.02.034



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