

Table 2. *Hormonal Therapies for Endometriosis: Mechanism, Efficacy, and Limitations*

Therapy	Mechanism of Action	Main Benefits	Limitations / Side Effects	Reference s
NSAIDs	Inhibit prostaglandin synthesis	Analgesia, menstrual pain relief	GI irritation, minimal lesion effect	[28,77,80,88,96]
COCs	Suppress ovulation, reduce menstrual flow	Cycle control, pain reduction	Breakthrough bleeding, contraindicated in vascular disease	[28,77,80,88,96]
Progestins (e.g., dienogest)	Endometrial atrophy, anti-inflammatory	Pain reduction, long-term safety	Irregular bleeding, mood changes	[77,37]
GnRH agonists	Pituitary downregulation → hypoestrogenism	Effective for severe pain	Bone loss, hot flushes → add-back therapy	[24, 28,96]
GnRH antagonists	Immediate, reversible suppression	Dose flexibility, rapid effect	Mild hypoestrogenic effects long-term	[38]
Aromatase inhibitors	Inhibit peripheral/local estrogen synthesis	Useful for refractory disease	Bone loss, arthralgia	[105]
SPRMs / SERMs	Modulate progesterone/estrogen receptors	Promising targeted therapy	Limited clinical data	[28,50,77]