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NOVEL INSIGHTS INTO THE ROLE OF GALLBLADDER DYSFUNCTION IN THE DEVELOPMENT OF ENDOMETRIAL POLYPS

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Background

Endometrial polyps represent one of the most frequent manifestations of focal endometrial hyperplasia; however, their etiology remains multifactorial and not fully elucidated. While endocrine and metabolic influences have been well established, the contribution of hepatobiliary dysfunction — particularly gallbladder pathology — has been largely underestimated. Gallbladder dyskinesia and chronic cholestasis can impair bile acid circulation, lipid metabolism, and estrogen detoxification, thereby altering systemic hormonal equilibrium and promoting a microenvironment conducive to endometrial overgrowth.

Aim

To investigate the potential role of gallbladder dysfunction as an extragenital contributor in the pathogenesis of endometrial polyps, with particular emphasis on bile acid signaling, estrogen metabolism, and local endometrial remodeling.

Methods

A comprehensive analytical review was performed, integrating clinical observations, biochemical studies, and experimental models addressing the interaction between biliary dysfunction and reproductive system alterations. Special focus was placed on the mechanisms linking impaired estrogen metabolism, systemic inflammation, and oxidative stress with aberrant endometrial proliferation.

Results

Cumulative evidence indicates that biliary stasis is associated with hyperestrogenemia due to decreased hepatic conjugation and excretion of steroid hormones. This hormonal imbalance fosters progesterone resistance, promoting excessive proliferation of stromal and glandular endometrial components. Moreover, dysregulated bile acid metabolism induces oxidative stress and pro-inflammatory cascades, both of which can exacerbate focal endometrial growth and vascular remodeling. Together, these pathophysiological mechanisms suggest a previously underrecognized link between gallbladder dysfunction and endometrial pathology.

Conclusion

Gallbladder dysfunction emerges as a novel and clinically relevant extragenital risk factor contributing to the development of endometrial polyps. Recognizing this association highlights the need for interdisciplinary approaches that integrate gastroenterological assessment into gynecologic evaluation and management. Such recognition could inform early prevention strategies and targeted therapies for women with concurrent biliary and reproductive disorders.

Keywords

Gallbladder dysfunction; bile acids; estrogen metabolism; progesterone resistance; oxidative stress; endometrial polyps.

Conflict of Interest

The author declares no conflict of interest.

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