**Assessing the Influence of One-Month Fasting on Ovarian Morphology in a Rat Model of PCOS**

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Polycystic ovary syndrome (PCOS) is a common hormonal and endocrine disorder that can lead to infertility in women of childbearing age. Being overweight or obese is closely linked with PCOS, often resulting in hyperandrogenism and chronic anovulation. This study aimed to explore the effects of a one-month fasting regimen on ovarian structure in a rat model simulating PCOS.

Eighteen female Sprague-Dawley rats were divided into three groups: Control, PCOS, and Fasting. The Control group was fed a regular diet, while the PCOS group received a high-fat diet and 21 days of letrozole treatment. The Fasting group followed the same diet and treatment as the PCOS group but also underwent 12-hour fasting daily for 30 days. Ovarian samples were collected and examined using a light microscope for histological and morphometric analysis.

The results showed a significant increase in ovarian weight in the PCOS group compared to the Control group. Conversely, the Fasting group exhibited a notable decrease in ovarian weight compared to the PCOS group. Histological examination of ovarian tissue from the PCOS group revealed numerous cystic follicles, a hallmark of polycystic ovaries. In contrast, the Fasting group displayed a variety of follicles, including secondary, tertiary, and Graafian follicles, as well as a significant number of corpora lutea. Furthermore, cystic and atretic follicles returned to a normal state in the Fasting group, indicating improved follicle growth, ovulation, and egg release.

These findings suggest that fasting may be a potential intervention for certain aspects of PCOS management.