

# **A Study of the Histopathological Changes within Ectopic Endometrial Tissue, in Subjects with Known Pelvic Endometriosis Following Treatment with Ulipristal Acetate.**

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## Introduction

Progesterone receptor modulators (PRMs) are known to have an anti-proliferative effect on eutopic endometrium but can also lead to PAEC (PRM-associated endometrial changes), which are benign and resolve with menstruation in the majority of users. Our study was designed to assess the histological impact of Ulipristal acetate on endometriotic deposits in pelvic endometriosis.

## Materials & methods

The CHUTE (Changes in Histology following Ulipristal Treatment in Endometriosis) trial is an interventional descriptive cohort study of 20 subjects with pelvic endometriosis confirmed by laparoscopy. Administration of Ulipristal Acetate (5mg) once daily for three months prior to surgical management of the disease allowed assessment of clinical and histological changes.

Study participants underwent surgical excision of their pelvic endometriosis and a eutopic endometrial biopsy was obtained. The histological samples underwent haematoxylin and eosin staining and immunohistochemical staining for the oestrogen receptor (ER), progesterone receptor (PR), androgen receptor (AR), Ki67 (proliferation marker), PTEN (tumour suppressor) and VEGF (vascular endothelial growth factor).

## Results

A total of 18 patients completed the study with two exclusions. The data for the cohort of 18 patients show a mean age of 35 (range, 22-49) and a BMI of 25 (range, 20-39). The presenting symptoms were dysmenorrhea (17/18), non-menstrual pelvic pain (17/18) and dyspareunia (13/18). The median ARSM staging at diagnosis was Stage II (mean score 20) and then at surgical management was Stage III (mean score 29), with a median interval of twelve months.

Cystic dilatation of glands is a cardinal feature of PAEC and was seen in four eutopic and fifteen ectopic endometrial samples, in some cases with striking prominence. However, cystically dilated glands lined by flattened, inactive cuboidal cells demonstrating ciliated metaplasia are known to occur in endometriosis, making interpretation difficult. Stromal vascular changes were seen in two eutopic samples but not in the ectopic samples. Immunohistochemical markers were consistent between the groups.

## Conclusion

Although some features consistent with PRM-associated endometrial changes have been seen within the ectopic endometrium, no complete PAEC or atypical histological features were identified. The absence of adverse histological features and the favourable clinical response to treatment make this an exciting prospect for the management of endometriosis.

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Keywords : Endometriosis, Ulipristal acetate, Histopathology

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