61: ULIPRISTAL ACETATE EFFECT ON GROWTH FACTORS IN UTERINE LEIOMYOMA

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Objective
The pathogenesis of uterine leiomyomas is unclear. Steroid hormones and fibrosis are believed to be crucial in leiomyomas development. We examined the gene expression and secretion profiles of several factors related among others to fibrosis and angiogenesis in leiomyomas after ulipristal acetate (UA) treatment.

Design
This laboratory-based study was carried out to analyze the UA action in leiomyomas. The evaluation was performed on tissue specimens obtained through myomectomy from UA-treated (n=20) and UA-untreated (n=50) patients with leiomyomas. The control group was a normal myometrium (n=20) obtained through hysterectomies performed for other reasons than leiomyomas.

Material and Methods
Immediately after surgery explants and primary cell line (n=10) were established. Cultured cells and explants were exposed to UA and progesterone (P4) in a dose- and time-dependent manner. Cells viability was measured by MTT assay. The differences in gene expression were determined by qRT-PCR. Changes in protein release were analyzed through ELISA. Statistical significance was assessed by one-way ANOVA using GraphPad PRISM v.7.0. $P \leq 0.05$ was considered as statistically significant.

Results
P4 significantly stimulated, whereas UA at 1 μM or higher doses inhibited leiomyoma cells growth. Moreover, UA reversed the effect of P4. UA significantly decreased gene expression of IL-1β, VEGFA, VEGFC, TRAIL, IL-24, IL-10, IGF-1 and FGF2, but increased IL-10 and IFNβ1 gene expression in leiomyoma cells and tissues. Furthermore, UA significantly decreased gene expression of receptors: IL1R1, IFNAR2, TNF RSF 1A, TNF RSF 10B, TNF RSF 10C and IL10RA. UA significantly decreased IL-6, VEGF and IGF-1 release in leiomyoma cells and explants.

Conclusions
Our study showed that UA may affect the gene expression and secretion of growth factors, which may contribute to leiomyoma pathogenesis. These results might be the basis for future research on the biological treatment of uterine leiomyomas.

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