Objective: Prostaglandin E2 (PGE2) has been implicated in the regulation of inflammatory events. The aim of this study was to investigate whether celecoxib could inhibit the cultured leiomyoma cell growing induced by PGE2.

Methods: Leiomyoma cells (LC) were obtained from hysterectomized patients (n=5) without prior hormonal treatment for at least 3 months. NF-κB, COX-2 and ERK expressions were detected by Western blotting. Quantitative RT-PCR was used for measuring IL-6, IL-1β, TNF-α, PDGF, EGF, TGF-β, collagen-A and fibronectin. Immunofluorescent staining was used for PDGF expression comparison.

Results: Treatment of LC with PG E2 (10 μM) increased cell survival. Celecoxib decreased the cell survival induced by PG E2 stimulation. Cytokines (IL-6, IL-1β and TNF-α) and growth factors (PDGF, EGF and TGF-β) were decreased in LC by PGE2.

Conclusion: This study implies that inflammation mechanisms are involved in the leiomyoma growth. Celecoxib may prevent the leiomyoma growing through blocking the production of growth factors and cytokines.