Bromocriptine inhibits proliferation in the endometrium from women with adenomyosis

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Conclusion

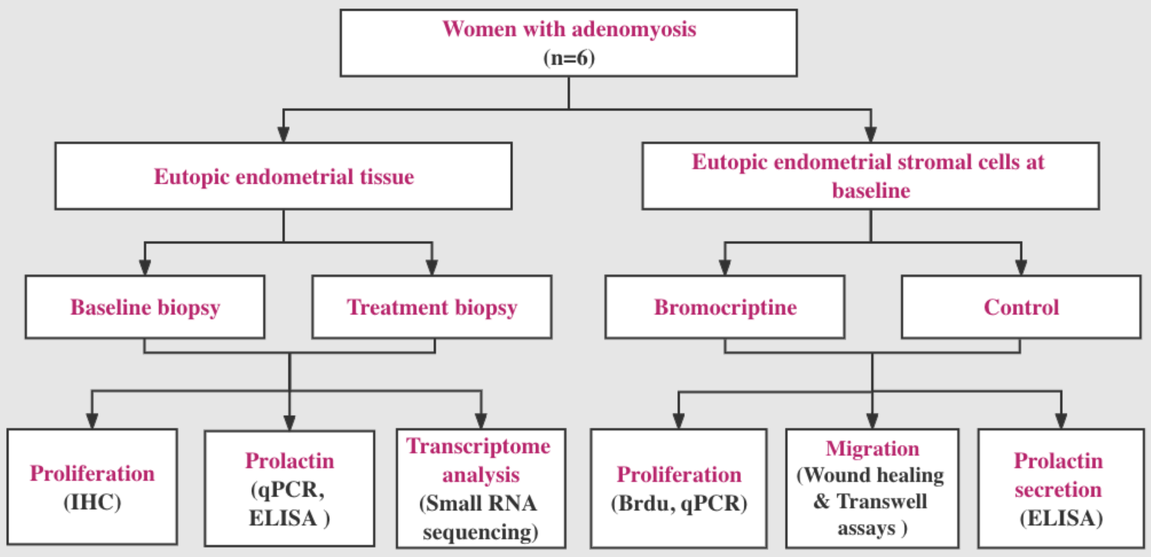
Bromocriptine treatment exhibits an anti-proliferative effect in the endometrium of women with adenomyosis *in vivo* and *in vitro*. The action could partly explain the reduced bleeding and pain observed in women with adenomyosis after bromocriptine treatment by inhibiting the proliferation of the endometrium.

Background & Aim

Adenomyosis is a benign uterine disorder, defined by the presence of endometrial glands and stroma infiltration within the myometrium, resulting in uterine enlargement heavy menstrual bleeding, dysmenorrhea, chronic pelvic pain, etc.

Our previous clinical trial showed that vaginal bromocriptine treatment for six months significantly improves symptoms of patients with diffuse adenomyosis including menstrual bleeding and pelvic pain. However, the underlying mechanism of bromocriptine in reducing adenomyosis-associated symptoms remains unknown. The purpose of this study was to explore the effect of bromocriptine on the proliferation and migration properties of the endometrium in women with adenomyosis, by assessing cellular and molecular changes after six months of vaginal bromocriptine treatment.

Study Design



Results

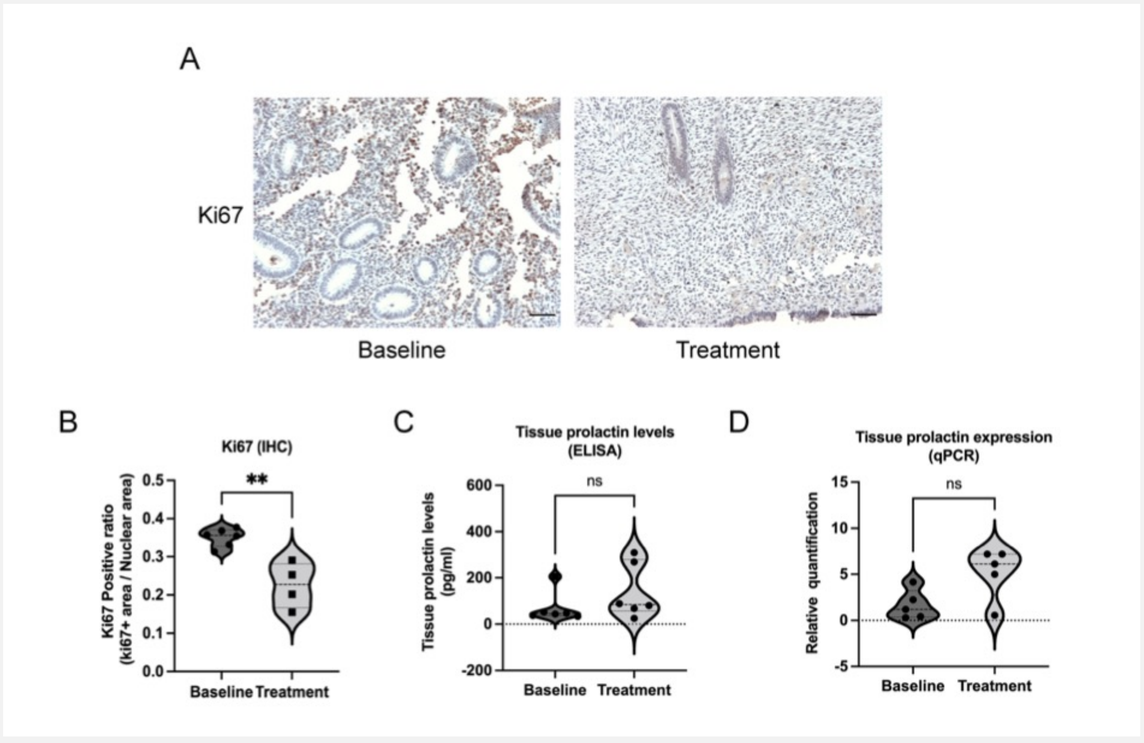


Figure 1 Ki67 and prolactin expression in endometrial tissue between baseline and bromocriptine treatment in women with adenomyosis.

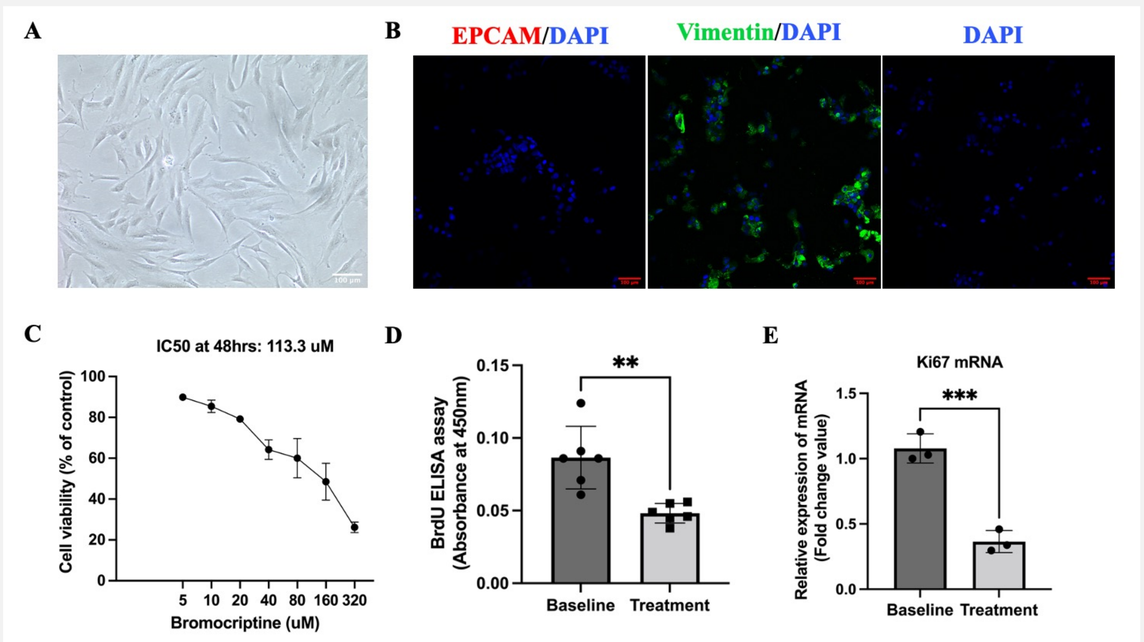


Figure 2 Effect of bromocriptine on cell proliferative ability *in vitro* in endometrial stromal cells.

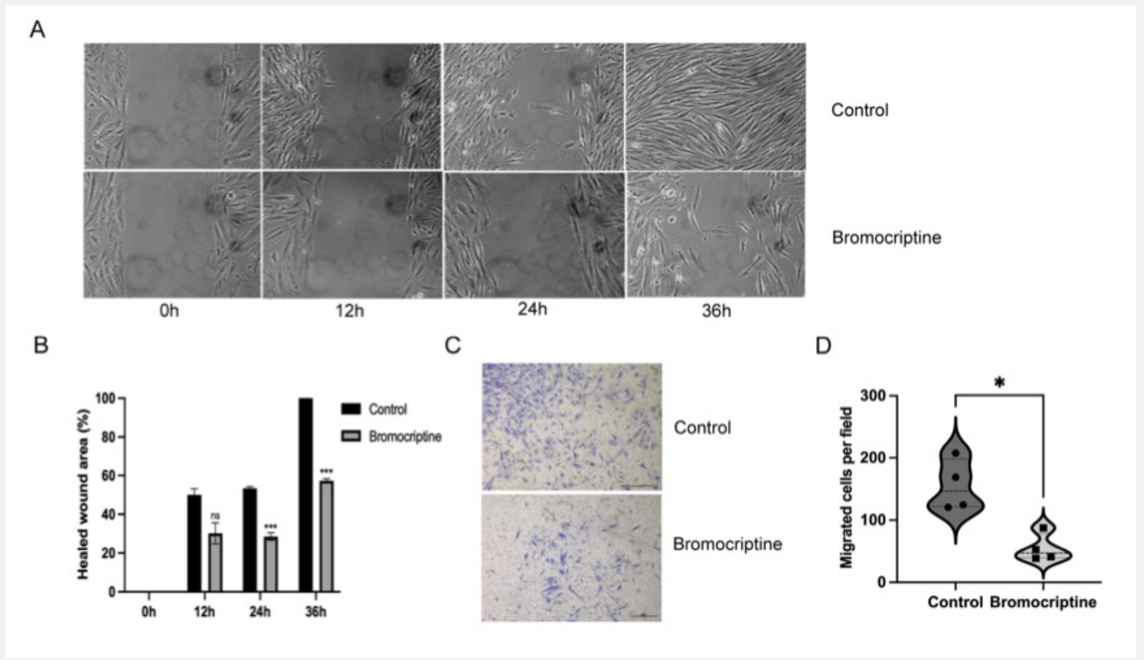


Figure 3 Effect of bromocriptine on the migrative ability of adenomyosis endometrial stromal cells evaluated by wound healing assay and transwell migration assay.

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