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Effects of Misoprostol on the Endometrium of Ovariectomized Rats

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Abstract: Misoprostol (Cytotec, Searle, England), a prostaglandin E1 analogue, is indicated for protection of peptic disease induced by cyclo-oxygenase inhibitors. Since vaginal bleeding was reported during misoprostol use previously, we hypothesized that misoprostol might cause endometrial stimulation. Therefore, we investigated the effects of misoprostol on the endometrium of ovariectomized (OVX) rats to investigate any endometrial changes. Thirty-two, four month-old, parous female Sprague-Dawley rats were used in this study. All rats underwent ovariectomy at the beginning of the study. Sixty days after the ovariectomy six rats were sacrificed to remove the uterus and the remaining 26 rats were divided into three groups. Group I (six rats) was treated with vehicle (1 cc of distilled water orally) for 60 days. Groups II and III (ten rats each) were treated with oral 100 and 200 mg/day misoprostol, respectively, for 60 days. At the end of the treatment laparotomy was performed and the uteri of all the rats were removed. Histopathologic examination of the endometrium 60 days after ovariectomy revealed endometrial atrophy. But after misoprostol administration a minimal endometrial proliferation was encountered regardless of the dose of misoprostol. The present study demonstrated that misoprostol can cause a proliferation in the endometrium after 60 days of administration. Long term studies are needed to evaluate if this proliferation leads to hyperplasia and cancer, especially in postmenopausal women.

Key Words: misoprostol, endometrium, menopause

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