

## Comparison of PCT after vaginal and oral bromocriptine use in women with hyperprolactinemia and infertility

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### Abstract

Hyperprolactinemia is the most common cause of amenorrhea and infertility. Oral bromocriptine is the drug of choice for the treatment of hyperprolactinemia. Due to complications of its oral use, vaginal bromocriptine has been introduced as an effective and safe method. There is limited information regarding possible side effects of vaginal bromocriptine on motile sperm count in PCT results. Thus, in this clinical cross-sectional study, we sought to determine possible effects of vaginal bromocriptine on motile sperm count in PCT after resumption of ovulatory cycle in outpatients in reproductive age with hyperprolactinemia and complaints such as galactorrhea, menstrual irregularity and infertility. After exclusion of all confounding factors, the patients were divided in two groups. The study group (n=11) was treated with vaginal bromocriptine 2.5mg daily, and the control group (n=15) was treated with oral bromocriptine 2.5-5mg daily. Treatment duration needed for marked reduction in prolactine and also initiation of menses and ovulatory cycles were evaluated in both groups. After restoration of ovulation, PCT was done on 13-14th day of cycle in the presence of good cervical mucus, 8-12 hours after coitus. The numbers of motile sperm count atozoa/HPF in both groups were recorded and statistically compared with Mann Whitney U test. Treatment durations needed for initiation of ovulatory cycles in study group and the control group were 4-8 (mean 5.5) weeks and 4-7 (mean 5.8) weeks, respectively with no statistical difference ( $p>0.05$ ). PCT results showed 11-20 (mean 15.3) motile sperm/HPF with progressive forward movement in study group, who were treated with vaginal bromocriptine. By using oral bromocriptine, PCT showed 10-23 (mean 14.4) motile sperm/HPF with progressive forward movement in the control group. There were no statistical difference in PCT results between these two groups ( $p>0.05$ ). These results suggests the hypothesis, that vaginal bromocriptine has no adverse effects on motile sperm count in PCT, and vaginal bromocriptine can be used safely without possible adverse effect on sperm function in women with hyperprolactinemia and infertility. However, larger studies with more cases are necessary to confirm this hypothesis and to determine if vaginal bromocriptine has any effect on fertility in both groups.

**Keywords:** Hyperprolactinemia, Bromocriptine, PCT, Motile sperm, and Ovulatory cycles.

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