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Journal of Pharmacology and Therapeutics

Imatinib Maternal Use: A Case Report

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Received Date: Jan 10, 2022
Accepted Date: Jan 27, 2023
Published Date: Feb 07 , 2023

Case Report

To report a case of condom use alongside imatinib use in a vasectomized patient. A 45-year-old premenopausal woman sought counsel from the Medicine Pregnancy and Lactation Policlinic of the Isala Clinics (MAZ, Zwolle, and The Netherlands) in September 2020 regarding the medication her spouse was taking. He was given imatinib 400 mg once day for his treatment, and they were instructed to limit their sexual activity to condom use to prevent any imatinib-related side effects. They inquired for our opinion on whether or not to use condoms after he had vasectomy surgery (on both sides) a few years ago.

Imatinib's potential teratologic side effects could be disregarded because there is no probability of a spontaneous conception given that he has already undergone vasectomies. However, it is now questioned if the advise of the treating doctor to wear condoms during sexual activity due to potential teratologic repercussions in the offspring. In a cohort of 428 pregnancies, Szakacs et al. [1]'s systematic review found no evidence of a rise in the incidence of abnormalities in the children of fathers who used imatinib.

Imatinib in the prostatic fluid having direct effects on the vaginal wall during sexual activity is another potential danger. According to a research by Chang et al. [2], imatinib can penetrate semen at levels of 1397 ng/ml 424 ng/ml in 11 males of reproductive age and at levels that are similar in plasma.

The spermatozoa or the prostatic fluid may have been the source of the imatinib discovered in this investigation. Antimicrobial drugs have been shown to therapeutically permeate the prostate [3]. To our knowledge, imatinib prostate levels have not been reported. Imatinib has never been shown to have any local toxicity, according to the literature.

We made the decision to request a "semen" sample and examine the imatinib levels based on this information. The day before sampling, at 22:30, imatinib 400 mg once daily was last consumed. The following morning at 10:30, a sample was created and brought to the Isala Clinics hospital pharmacy (Zwolle, the Netherlands).

A concentration of 610 microgram/L was discovered using an LC-MSMS analyzer. There could be an intravaginal exposure of 610 nanogram/ml (max. exposure 3 microgram imatinib) with an estimated ejaculation volume of 3 ml to 5 ml. When compared to oral intake, intravaginal exposure would be insignificant.

The real peak concentration may be higher because we measured at steady state concentrations rather than at the highest levels that might reasonably be expected, but it is still insignificant in comparison to oral exposure. Due to the low concentration of imatinib in her spouse's prostate fluids and the lack of any known local toxicity from imatinib, we informed our patient that the use of condoms was no longer necessary.

References

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