

# Der Arzneimittelbrief (The Drug Letter) 2013

## Infertility caused by Propecia (Finasteride), a treatment for male pattern baldness

*Editor's note: This English translation was done by a third party. The original report can be accessed [here](#).*

As we have repeatedly reported, Finasteride (Proscar®, Generic), a 5-alpha reductase inhibitor, works by preventing the conversion of testosterone on the androgen receptor (1,2), to the more active dihydrotestosterone (DHT).

Finasteride shrinks an enlarged prostate in cases of benign prostatic hyperplasia (BPH), alleviating the pain and often avoiding surgery. On the other hand, a daily dose of 5 mg can lead to a decreased ejaculate volume in most men. The drug is known to affect the libido, sexual function, and in rare cases cause gynecomastia. (3, 4).

Given that benign prostatic hyperplasia is a condition that commonly affects older men, most patients will tolerate the unwanted side effects, considering fertility is probably no longer a concern.

Finasteride was approved in 1997 for the treatment of androgenetic alopecia in genetically predisposed men. The users are mostly young men. The approved daily dose of the drug is 1mg. (3).

According to a Finasteride and Infertility study from 2006, the side effects mentioned above are still present with this dosage, although to a lesser extent (3,5). Infertility appeared to be reversible upon prolonged drug discontinuation.

Following the publication of this study, Samplaski reported several cases of infertility, including more than 27 male patients (median age 37) of a fertility clinic in Toronto, Canada, who couldn't fulfill their desire to become parents after using Finasteride for an average of 57 months (8).

Most of these men exhibited significantly reduced sperm concentration. After approximately 6 months of quitting the drug, concentration levels increased by an average of 11.6 times.

Sperm motility also improved, however, the observation period was too short to determine if any children were conceived without assistance after the discontinuation of the drug.

It is not yet clear how Finasteride suppresses spermatogenesis, but there are reasons to believe Dihydrotestosterone (DHT) formed from Testicular Testosterone (T) has an important function in that process.

In 1992, experts in prevention of diseases were concerned by a study published by Carlson in Copenhagen (9), stating that the quality of sperm in young men had significantly decreased in the last 50 years (prior the publication date). Those findings have been partially confirmed (10), and questioned by other authors (10, 11). The fact that different environmental factors could potentially affect fertility, led to several studies on the subject, including Samplaski's (8), which suggests that Finasteride affects spermatogenesis and fertility in men.

The risk of infertility from Finasteride is greater for users who have suboptimal sperm before starting the treatment. Even though the effects of the drug on the quality of sperm appear to be reversible once the medicine is discontinued, as far as we know, a cosmetic product that disrupts basic endocrine functions, and has the sole purpose of stopping hair loss, shouldn't have been authorized in the first place.

#### Conclusion:

Propecia was approved in 1997 as a solution to slow male pattern baldness. Finasteride is not only poorly effective, but it can lead to infertility. As we stated in 2006 (3), we advise against a cosmetic product with potential endocrine side effects. Propecia should have never been approved, and its authorization should be revoked as soon as possible.

#### References

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