Authors' reply

Sir,

We thank the authors for taking interest in our article and the section on finasteride, in particular. It is a pleasure to reply to the queries raised by the authors.

To start discussing a very serious issue with medicolegal implications, we would like to quote certain points from an article on guidelines on the use of finasteride in androgenetic alopecia by Indian Association of Dermatologists, Venereologists and Leprologists (IADVL) therapeutic guidelines committee:[1]

- "It is better to avoid the drug in patients who have had history of oligospermia or infertility, particularly if they are newly married and trying to raise a family."
- "The FDA reviewed 251 cases of altered semen quality with the use of 1 mg finasteride from the sponsor's safety database and expressed the need for further evaluation of 13 cases."
- "Most importantly, the intake of the drug is voluntary as patterned hair loss is only a cosmetic condition. It is entirely up to the patient whether to take the drug or not. If they choose to avoid the drug, they should be prepared for further progression of baldness."

IADVL therapeutic recommendation committee guidelines concluded that, "It is better to avoid the drug in patients who have had history of oligospermia or infertility, particularly if they are newly married and trying to raise a family."

Therefore, as of now, all of us—the IADVL therapeutic guidelines committee, the correspondents and us—agree on the fact that finasteride should be avoided in patients with oligospermia and/or subfertility. Now, the basic question is how to identify such patients. History and semen analysis will help us identify such high-risk patients, and we suggest that semen analysis is the next rational and logical step.

We can fully understand and are aware of the medicolegal implications of such a stand. But that is not a scientific basis to refute our position on baseline semen analysis. We hold that getting a baseline semen analysis in patients who are yet to start the family (and thus identifying patients with oligospermia and subfertility) can actually prevent dermatologists from getting involved in medicolegal conundrum, rather than putting them in jeopardy.

To support their stand, the correspondents have cited a study done by Overstreet *et al*., which concluded that 1 mg finasteride had no significant effects on spermatogenesis, sperm motility and semen production. It is important to

note that the study included "fertile men" only, and the authors of the study had categorically excluded patients with abnormal screening semen analysis, a history of subfertility, cryptorchidism, varicocele, testicular mass, venereal disease, urinary tract infection, prostatitis, orchitis or epididymitis.[2] Therefore, extrapolating the conclusion of this study to the general population is absolutely not justified. Besides, Samplaski *et al*. had clearly stated that finasteride (even at a dose of 1 mg) should be discontinued in infertile men with oligospermia or azoospermia. They also mentioned that discontinuation of the drug may not bring the sperm parameters to normal level but it may lead to improvement in semen parameters, which will eventually allow the couple to plan for a less invasive fertility therapy. When the authors discontinued finasteride treatment in their patients, they found a significant increase in sperm count (an average 11.6-fold increase).[3]

The correspondents have cited a study by Amory *et al*. who have documented negative impact of 5 mg finasteride on total sperm count, semen volume, sperm concentration and sperm motility. They have rightly pointed out that these alterations were seen with higher dose of finasteride and not with the regularly prescribed dose (1 mg/day). However, the same study by Amory *et al*. mentions that some individuals (5% of subjects on active treatment) had demonstrated greater sensitivity to the effects of 5-α-reductase inhibition. The total sperm count went down to <10% of the baseline values during active treatment. Hence, it is understandable that there seems to be some variations in individual testicular response to finasteride. Therefore, it is imperative to suspect and identify those patients who may develop such a reduction in semen parameters before initiating finasteride therapy.[4] These observations support our stand on baseline semen analysis especially in those who are yet to start the family and have a history of subfertility.

Additionally, there is some evidence suggesting that men with androgenetic alopecia may be predisposed to infertility. A genome-wide association study for androgenetic alopecia identified an associated locus at chromosome 20p11.22.[5] Subsequently, a recent meta-analysis using known loci on the X chromosome and chromosome 20 identified six novel susceptibility loci.[6] Therefore, the links between androgenetic alopecia, reduced fertility and chances of finasteride contributing to infertility do not seem unscientific and improbable.

Here we want to bring out the difference in the meaning of words "prudent" and "recommended." We have suggested that till the time we get more robust evidence on this issue, it is prudent to safeguard the interests of both patients and dermatologists by advising semen analysis in those patients who are recently married or who have not yet fathered a child, thereby reducing the probability of administering this drug in patients with oligospermia or azoospermia.

To conclude, there is enough evidence to suggest that finasteride should be avoided in patients who are yet to start a family and have oligospermia and subfertility. The mechanism of finasteride-induced deterioration in semen parameters is not fully understood, but inter-individual variations in negative impact of finasteride, even at the dose of 1 mg daily, on semen parameters are increasingly being recognized. Considering all this, we conclude that it is better to be safe than sorry and propose to consider baseline semen analysis in a group of patients who have not yet fathered a child.[7]

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Conflicts of interest
There are no conflicts of interest.

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References

1. Mysore V, Shashikumar BM. Guidelines on the use of finasteride in androgenetic alopecia. Indian J Dermatol Venereol Leprol 2016;82:128-34.
2. Overstreet JW, Fuh VL, Gould J, Howards SS, Lieber MM, Hellstrom W, *et al.* Chronic treatment with finasteride daily does not affect spermatogenesis or semen production in young men. J Urol 1999;162:1295-300.
3. Samplaski MK, Lo K, Grober E, Jarvi K. Finasteride use in the male infertility population: Effects on semen and hormone parameters. Fertil Steril 2013;100:1542-6.
4. Amory JK, Wang C, Swerdloff RS, Anawalt BD, Matsumoto AM, Bremner WJ, *et al.* The effect of 5alpha-reductase inhibition with dutasteride and finasteride on semen parameters and serum hormones in healthy men. J Clin Endocrinol Metab 2007;92:1659-65.
5. Richards JB, Yuan X, Geller F, Waterworth D, Bataille V, Glass D, *et al.* Male-pattern baldness susceptibility locus at 20p11. Nat Genet 2008;40:1282-4.
6. Li R, Brockschmidt FF, Kiefer AK, Stefansson H, Nyholt DR, Song K, *et al.* Six novel susceptibility loci for early-onset androgenetic alopecia and their unexpected association with common diseases. PLoS Genet 2012;8:e1002746.
7. Kumar P, Das A, Lal NR, Jain S, Ghosh A. Safety of important

dermatological drugs (retinoids, immune suppressants, anti androgens and thalidomide) in reproductively active males with respect to pregnancy outcome: A brief review of literature. Indian J Dermatol Venereol Leprol 2018;84:539-46.

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