Varicocele is a time-dependent disease. The progressive effect of untreated clinical varicoceles on testicular function may deteriorate not only spermatogenesis but also androgen production. Moreover, men with palpable varicocele exhibit lower testosterone levels compared to counterparts without varicocele and proven fertility; and this holds true at any given age.²

It has been recently shown that testosterone levels are significantly improved after varicocele repair in hypogonadal adult men.⁴ Interestingly, even hypogonadic men in their 50’s or 60’s exhibit increased testosterone and semen quality following varicocelectomy.⁵ However, it is not yet possible to determine if the observed increase in the testosterone levels is sustained over time due to a lack of studies with a long-term follow-up. Moreover, there is still a debate as to the effects of varicocele repair on testosterone levels in eugonadal men.

It has been our experience that microsurgical varicocelectomy may improve the semen quality and androgen production in hypogonadal men with clinical varicocele. In general, these observed effects are achieved in a 3-month follow-up period. Such beneficial effects on androgen production may avoid the need of hormone replacement therapy in symptomatic individuals.

Our data are in agreement with the recent observations indicating that testosterone levels are improved after microsurgical varicocelectomy in hypogonadal men even at older ages. In contrast, these effects are equivocal in men with normal testosterone levels.

Microsurgical varicocelectomy performed by experienced surgeons is associated with a low risk of complications, and it has been recommended as the method of choice for treating varicocele. However, when performing varicocelectomy and vasectomy at the same operative time, great caution should be taken not to injure the deferential veins as well as cremasteric and testicular arteries.

In conclusion, it seems sound to recommend microsurgical varicocelectomy aiming at improving androgen production in men with low testosterone levels. However, given the limited evidence available, controlled studies with a long-term follow-up in fertile and infertile men are still necessary to establish the true benefits of surgery in these men.

COMPETING INTERESTS
The authors declare no competing interests.

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