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INVITED COMMENTARY

Male Fertility

The benefits of understanding complementary medicine options for patients with male factor infertility

Christopher Wu¹, Larry I Lipshultz², Jason R Kovac³

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Infertility affects roughly 15% of couples; in nearly half of these cases, there is a male contributing factor.¹ Along with advances in modern drugs and assisted reproductive technologies, some infertile patients choose to use complementary and alternative medical therapies (CAM). These are either administered as adjuncts or, in some cases, as the sole mode of medical therapy. Reasons for using CAM vary and may include faith, beliefs, economic factors or simply fear of a surgical procedure and apprehension about using hormone-modifying medications.

In their chapter, Yao and Mills² present a broad review on the types of CAM available to patients with male fertility. The authors touch on lifestyle modification, nonprescription medications and supplements, traditional Chinese medicine, and other supportive therapies. The data reviewed on the efficacy of vitamin therapies is traditionally variable. These are the most commonly used supplemental treatments; however, the evidence for success is still quite weak. These confounding data can be partially attributed to the massive amounts of supplements that are available and the difficulty in controlling modifiable factors. While some literature has suggested that vitamin therapy can improve certain semen parameters, it is still controversial whether this effect actually translates into viable improvements in pregnancy rates.

Patients elect to take multi-vitamins and supplements believing them to be safer than hormone medications. Interestingly, herbal supplements do not need to seek Food and Drug Administration (FDA) approval before coming to market. Instead, they can make claims to support reproductive health in spite of the FDA never having evaluated such claims. Indeed, the Dietary Supplement Health Education Act of 1994 does not require the manufacturers of herbal products sold in the United States before 1994 to prove that their products are either effective or safe.³

Another interesting CAM is the effect of temperature on male fertility. This is a common question asked by patients, especially when discussing the theories that increased heat due to the presence

of varicoceles can also affect spermatogenesis. The normal scrotal temperature in humans is maintained at 2–4°C below core body temperature through multiple mechanisms.⁴ The testicles are kept outside the body, and a counter-current heat exchange mechanism exists between the arteries and the pampiniform venous plexus, drawing away heat from the incoming arteries into the veins leaving the testicle. The negative effects of heat on spermatogenesis have been well studied in animal models with results showing a disruption of normal spermatogenesis with resultant increased cellular apoptosis.⁴ This heat effect is enforced by studies in cryptorchidism that have also identified significantly impaired spermatogenesis and decreases in sperm concentration.⁴

Consequently, some literature seems to suggest that there is some positive data supporting scrotal cooling. While conditions such as cryptorchidism cause an obvious increase in testicular temperatures, it would be interesting to examine the effects of variations in scrotal anatomy on fertility. Do men with flat, tense, or retracted scrotums have increased scrotal content temperatures and how does this correlate to decreased fertility? To date, studies on the effects of increased genital heat on semen parameters have only presented very limited and conflicting data.

CAM therapies offer alternatives such as those described above to patients who do not desire any type of operative or hormonal manipulation. In these types of patients, being knowledgeable about alternatives and having a list of options described by Yao and Mills² allows the Andrologist to offer patients potentially beneficial treatments that still falls into their comfort level. Furthermore, by setting up these CAM and continued follow-up, progress can be monitored and documented. Perhaps CAM may have a larger influence on male fertility than anyone has as yet predicted.

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¹McMaster Institute of Urology, Hamilton, ON, Canada; ²Scott Department of Urology, Baylor College of Medicine, Houston, Texas 77030, USA; ³Men's Health Center, 8240 Naab Road, Suite 220, Indianapolis, Indiana 46260, USA.
Correspondence: Dr. JR Kovac (jkovac@urologyin.com)