Male Factor Infertility

Your Healthy News – Fertility Newsletter
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Approximately 15 % of couples have difficulty conceiving a child after trying for at least a year, and are therefore considered to be infertile.[i] Up to 20% of infertile men have azoospermia, which means that they are producing no sperm at all.[ii] Even though infertility has historically been considered to be a female disease, it is now known that in at least half of all cases, male factor infertility is a contributing cause.[iii]

The causes of male infertility

Male infertility is typically associated with insufficient sperm production, reproductive tract blockage, or both. A blockage of the reproductive tract is commonly associated with a vasectomy, a urinary tract infection, or a sexually transmitted disease such as chlamydia or gonorrhea. Some problems associated with sperm production include the following: too few sperm being created, unhealthy sperm, not enough semen created to carry the sperm properly, and misshapen or immobile sperm that are unable to function properly. There are many medical reasons that can account for these various production issues. Some common causes include varicocele, undescended testes, and drug use.

Varicocele

A varicocele is an enlarged vein of the testicles. It is theorized that an enlarged vein may prevent normal cooling of the testicle. Due to the fact that sperm is extremely sensitive to temperature changes, this enlarged vein may contribute to infertility. The importance of a varicocele's contribution to male infertility remains a controversial topic. According to some sources, such as Cornell University Weill Medical College, it is the most common cause of male infertility.[iv] Other sources, such as the Infertility Center of Saint Louis argue that a varicocele is "a completely benign and normal variant of testicular anatomy," and "more than 15% of all men on the planet have a varicose vein of their left testicle, and most of these men are quite fertile."[v]

The procedure used to fix a varicocele is called a varicocelectomy. This is a complicated procedure that has many possibilities for error. The vascular anatomy of the testes is quite small and delicate, and common surgical errors involve tying off the wrong vasculature. There are controlled clinical studies that show no effect on pregnancy rates,[vi] and other studies that do show a small effect,[vii] adding to the controversy of the procedure.

Treatments

There are several treatment options available based on the cause of infertility. Surgery can correct a varicocele, and a surgical procedure is also available to reverse a vasectomy. If an infection is causing the infertility, antibiotics may cure the infection, but may not fully restore fertility due to damage that may have already occurred. If low hormone levels are responsible for the infertility, hormone replacement medications may help to restore testicular function. Clomiphene is a drug that can increase sperm counts in some men, but it has not been shown to increase pregnancy rates.[viii]

Intrauterine insemination and in vitro fertilization are proven methods that can be used with men who have at least low sperm counts. Intrauterine insemination, also known as artificial insemination, involves selecting highly active and healthy sperm acquired from the man and placing them into the woman's uterus, increasing the chances of pregnancy. In vitro fertilization is performed by fertilizing an egg with a sperm outside of the body, and then implanting it into the woman's uterus.

Male infertility is currently recognized as a major factor in infertility cases. Due to the fact that it has really only been studied in the last 50 years, the research for appropriate treatments is still in its infancy. The most effective treatments to date are intrauterine insemination and in vitro fertilization, where a small amount of sperm can be utilized to fertilize an egg. Regardless of the advances in medical technology, there are still some men who will not be able to father a child, and using a sperm donor or adopting a child may be the only option.

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[i] Mayo Clinic website. Available at http://www.mayoclinic.com/health/male-infertility/DS01038. Accessed 2/23/2011

[ii] Jarvi, Keith, et al. CUA Guideline: The workup of azoospermic males. Can Urol Assoc J. 2010 June; 4(3): 163–167.

[iii] Cornell University Weill Medical College website. Available at: http://www.maleinfertility.org/new-understanding.html. Accessed 2/23/2011.

[iv] [iv] Cornell University Weill Medical College website. Available at: http://www.maleinfertility.org/new-understanding.html. Accessed 2/23/2011.

[v] Infertility Center of Saint Louis website. Available at: http://www.infertile.com/infertility-treatments/male-infertility.htm, Accessed 2/23/2011.

[vi] Masanori Yamamoto,et al. Effect of Varicocelectomy on Sperm Parameters and Pregnancy Rate in Patients with Subclinical Varicocele: A Randomized Prospective Controlled Study. The Journal of Urology, Volume 155, Issue 5 , Pages 1636-1638, May 1996

[vii] Zini A, Buckspan, M, Berardinucci D, et al: Loss of left testicular volume in men with clinical left varicocele: correlation with grade of varicocele. Arch androl 41:37, 1998.

[viii] World Health Organization. A double-blind trial of clomiphene citrate for the treatment of idiopathic male infertility. International Journal of Andrology, volume 15, issue 4, pg 299 – 307, Aug 1992.