Contraceptive "gold" for men? [1]

Alice,

I recall a test being done at the University of Wisconsin (may be wrong about which University) where gold valve implants were being tested as a reversible vasectomy. What were the results? Any further progress in that method?

Answer

Dear Reader,

You bring up an interesting study and an often misunderstood topic. The device you're referring to is the Bionyx control valve. While this isn't a vasectomy, there are procedures that can be done to reverse vasectomies. Unfortunately, further follow-up of the efficacy and safety of the Bionyx device hasn’t been conducted recently, but there are more recent contraceptive methods that are being studied to block the release of sperm.

First, defining a vasectomy can help bring some context to discussing contraceptive methods focused on sperm. A vasectomy is a surgical procedure, and it can be either performed as an incision with a scalpel or as a tiny puncture in the scrotum to cut or block the vasa deferentia. Maybe you remember reproductive anatomy 101 from sex ed, maybe you were never taught, but a review of the parts doesn’t hurt. The vasa deferentia are tubes that transport sperm from the epididymis, which holds mature sperm from the testicles, to the urethra. This allows the sperm to mix with other fluids to make semen. This semen is then ejaculated from the penis through the urethra. By either blocking or cutting the vasa deferentia near the testicles, sperm can’t leave and are eventually reabsorbed by the body. After about three months post-vasectomy, the effectiveness of preventing pregnancy is higher than 99 percent (an almost perfect contraceptive method). A semen analysis is often recommended to ensure that it worked as expected and there is no sperm in the semen after the procedure. Semen can still look, feel, and even taste the same; it just lacks sperm which is needed to result in pregnancy.

Now, this may seem very permanent, but the body is resilient and there is the possibility to reverse a vasectomy (although it’s not guaranteed). A surgeon may elect to do either of the following:
- **Vasovasostomy**: The severed ends of the vasa deferentia are sewn back together.
- **Vasoepididymostomy**: The vasa deferentia are attached directly back to the epididymis, but this is generally more complicated.

A surgeon won’t know exactly which is feasible until they have a chance to analyze sperm at the time of the surgery and may choose a combination of the two procedures, one for each side. This decision is mostly influenced by the time elapsed since the vasectomy. Once a vasectomy reversal is completed, pregnancy rates range from 30 to 90 percent and can be influenced by the time elapsed since the vasectomy, partner age, surgeon experience and training, and the presence of other fertility issues.

Vasectomies and vasectomy reversals are surgical procedures and carry their own risks. As such, other contraceptive methods targeting sperm have been researched such as the Bionyx device you mentioned. It was successful in humans, but its use has been discontinued and no follow-up research has been conducted since the '70s. More recent contraceptive methods being investigated include:

- **Vas-occlusive devices**: This is the implantation of a device, such as silicone rubber plugs into the vasa deferentia. No vas-occlusive devices have attained regulatory approval yet.
- **Hormones**: These would be androgen or androgen-progestin combination therapies that inhibit the production of testosterone which signals the production of sperm. More randomized-control studies are needed and those already conducted are short in length.
- **Systemic nonhormonal**: These include a number of therapies that target other parts of the body besides testosterone. There are currently several candidates that require further study.

Overall, these contraceptive methods show potential as options that can block sperm movement or its production, but research hasn’t provided a method available to the public yet. Currently, only condoms and vasectomies are available contraceptive methods that target sperm, but both have their respective pros and cons. That being said, vasectomies generally have the potential for reversal. A health care provider may provide some more guidance on their benefits and risks for those considering one.

Alice!

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Contraception

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