Why The World’s First Total Penis And Scrotum Transplant Is A Very Big Deal

By Jamie Wells, M.D. — April 23, 2018

A team of nine plastic surgeons and two urological surgeons from Johns Hopkins [2] just successfully performed the world’s first total penis and scrotum transplant in a 14-hour operation. The complex procedure was performed in March on a combat veteran who sustained catastrophic injury to the genital region while serving in Afghanistan. The soldier is set to be discharged home this week.

According to W.P. Andrew Lee, M.D. [3], professor and director of plastic and reconstructive surgery at the Johns Hopkins University School of Medicine,

“We are hopeful that this transplant will help restore near-normal urinary and sexual functions for this young man.”

The recipient, who prefers to remain anonymous, released this statement:

“It’s a real mind-boggling injury to suffer, it is not an easy one to accept...When I first woke up, I felt finally more normal... [with] a level of confidence as well. Confidence... like finally I’m okay now.”

Who needs such a surgery?
People who endure extensive traumatic injury to the area. Routinely, those who suffer such events are those in the military, traditionally young men, via exposure to improvised explosive devices. We are routinely shown images of individuals losing limbs in blasts, but those whose wounds are not readily seen often suffer in silence. Their damage can be partial to severe and the impact physically and mentally can be quite onerous and devastating.

**What does it entail?**

This case involved the transplant of the entire penis, scrotum without testicles, and part of the abdominal wall from a deceased donor. It is called “vascularized composite allotransplantation.” Because the tissue (including but not limited to skin, tendons, muscles, blood vessels, nerves) comes from another person, the possibility for rejection exists. The body has a tendency to rev up its own immune system’s response to foreign objects and destroy them, so medications have to be given to suppress this response enough to prevent serious problems. Creating the best protocol can be a challenge since it must keep in balance not weakening a person’s immunity too much to make him susceptible to severe infections. The Hopkins team revealed they “developed an immune modulation protocol aimed at minimizing the number of these drugs needed to prevent rejection.” This is pretty standard stuff when speaking of organ transplantation, the core concepts are the same.

**Aren’t there other less complicated ways to reconstruct this area?**

The issue of reconstruction can be very case-specific given that those with blast injuries can have such disparate, unique injuries. Though harm to the genitals can occur through a variety of mechanisms beyond military in nature, when it comes to reconstructing an impaired organ like the penis there must be enough remaining intact tissue from another area of a person’s body to do so. In the circumstance of combat veterans, this can pose a challenge especially when there is more diffuse destruction. Additionally, prosthetic implants are required for achieving an erection and they can bring about other difficulties (see my article Penis & Urethra: Inanimate Objects in Orifices [4] and these pieces (here [5], here [6] and here [7]) to appreciate the significant impact erectile dysfunction has on the patient and our healthcare system).

**This is a big deal**

For obvious reasons, sudden loss of any body part is life-altering. Thankfully, we live in a time where there are a number of options, that are continuously advancing, to restore a person to a high degree of function. When it comes to calamity in this location of the body, a person’s ability to perform routine tasks like urinate independently or achieve and maintain an erection allows them to feel whole and preserves their dignity and quality of life. For those volunteering to make the ultimate sacrifice, knowing that science and medical progress is constantly at play to guarantee their well-being should continue to be what’s expected. (To appreciate this progress and ongoing work, review a case report (August 2017) in *The Lancet* entitled Penile allotransplantation for penis amputation following ritual circumcision: a case report with 24 months of follow-up [8]).

Links