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Use of Electroejaculation in the Presence of Anal Stenosis

Androlog Summary

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Dr Samuel Thompson poses a question regarding the use of electroejaculation in the management of an azoospermic patient who has anal stenonsis secondary to imperforate anus which was repaired as a neonate. One of the strengths of *Androlog* is that it brings together fertility specialists from divergent backgrounds, including the veterinary sciences. Such diversity of opinion and information often leads to lively and informative exchanges, as in the discussion below.

> I have an interesting case that I would like to have some input on. I was asked to see a 29-year-old gentleman that has a history of imperforate anus. He had surgery as a neonate to correct this congenital defect. He currently has been married for 1½ years and trying for that entire time to initiate a pregnancy. He and his wife are having normal intercourse and he feels like he has normal orgasms. However, semen analysis reveals 0.1 mL volume and complete azoospermia on 2 separate occasions. Postejaculate urine was negative for evidence of retrograde ejaculation. Semen gonadotropins and testosterone are within normal limits. Transrectal ultrasound was performed and reveals no evidence of ejaculatory duct obstruction, although his prostate was poorly visualized.
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> I scheduled him for a diagnostic electroejaculation with a possible testicular biopsy.
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> At the time of surgery, I was unable to introduce the standard 1¼- or 1⅛-inch EEJ probe into his rectum because of anal stenosis. The procedure was performed under anesthesia, and despite my best efforts, I could not introduce the probes without tearing his anal verge. I went ahead with the testicular biopsy, and he has normal sperm production and a dilated epididymis.
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> I think the best way to extract sperm in this patient would be electroejaculation (EEJ), but despite checking with several research facilities, as well as 2 veterinary schools, I have been unable to find any EEJ probes locally that are smaller than what I have already tried. Although surgical extraction of sperm from either the vas or the epididymis is certainly an option for this couple, I was hoping to avoid another invasive procedure if at all possible.
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> Does anyone know of any contacts that might have access to an EEJ probe that is approximately the size of the transrectal ultrasound probe that I used on this patient in the office, which is ⅞-inch diameter? Any suggestions would be greatly appreciated.
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> Thank you, Samuel T. Thompson, MD

Dr Cathy Gartley replied with information regarding electroejaculation probes used in veterinary medicine where use of transrectal electrostimulation is applied to subjects of a variety of physical dimensions.

> There are several probes for sheep that are just under an inch in diameter and cat probes that are no bigger than a pencil. Nasco's Web site does not seem to work well, but their phone number in Wisconsin is (414) 563-2446 and in California is (209) 545-1600. This company has a battery-operated ejaculator with several choices in probe sizes and would likely be able to recommend one for this case. Several vets and researchers in the States work with cat semen, so if you want one that small, I could recommend some people who could tell you where to buy one. Ours is a special machine made in the 1970s or 1980s by Dr Platz in Washington and has a ram probe and a cat probe. The ram probe that came with our bull EEJ is too big for your patient.

Dr David McCulloh offers information regarding his clinical experience in retrieving sperm from patients who are azoospermic and who have a history of childhood surgery.

> We have performed PESA/TeSE (percutaneous epididymal sperm aspiration/testicular sperm extraction) for several men with azoospermia that we believe was caused by surgery during childhood (for inguinal hernia repairs). Is there a possibility that his neonatal surgery, while correcting the imperforate anus, may have obstructed or transected his vasa deferentia? If this is the case for your patient, wouldn't electroejaculation be fruitless?

Dr Dana Ohl also replies with a suggestion derived from use of electroejaculation in animals. He also provides important suggestions regarding safety in the application of this procedure in patients such as the one under discussion.

> We have probes in our possession that are as small as ½ inch and less to be used in animal research. I obtained these from Dr Seager. I am not sure of the FDA approval status of these small probes, so that may be a consideration in your decision to use them. They are quite effective in dogs and smaller animals, and we have no reason to believe that they would not work in humans.
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> One caveat: Heat generation is going to be more intense (per square unit of area stimulated) because of the smaller electrical contact, so there may be a higher chance of tissue injury. Also, because of tissue resistance of the skin, it is a very bad idea to try to stimulate the perineum while leaving the probe outside of the rectum, as this resistance will translate into extremely high heat generation and cause a skin burn. If the probe cannot be inserted into tissue with lower resistance (rectum or pull-through), the procedure should not be done.

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Last, Dr Marc Goldstein offers a suggestion regarding possible microsurgical reconstruction in patients with imperforate anus on the basis of his own clinical experience.

> I have seen a similar patient who had surgery for imperforate anus and presented with azoospermia and low volume. Vasogram revealed sperm in both vasa and obstruction of the ejaculatory duct on the left and the vas, near the junction with the seminal vesicle duct, on the right. I would do a vasogram (aspirating any motile sperm before putting in any indigo carmine or water-soluble contrast). If you are lucky, he will have ejaculatory duct or retroperitoneal vasal obstruction on one side and epididymal obstruction on the other side, and you will be able to do a crossed vasovasostomy. If he is unreconstructable, aspirate and cryopreserve sperm from the vasa and/or epididymides.