CASE REPORT

Ice pack induced scrotal skin necrosis following vasectomy

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Skin necrosis due to excessive ice pack application following vasectomy has not been previously reported. We report a rare case of postvasectomy skin necrosis resulting from extreme ice pack usage. This complication illustrates the importance of clear communication of postvasectomy instructions to patients. This complication was successfully managed with autolytic debridement without surgical debridement.

Key Words: vasectomy, skin necrosis, ice pack, debridement, frostbite

Introduction

Serious postvasectomy complications are very uncommon.[1,2] This report represents an interesting case of postvasectomy scrotal skin necrosis secondary to excessive application of ice packs. To the best of our knowledge, this is the first reported case of ice pack induced scrotal skin necrosis following vasectomy.

Case report

A 39-year-old male was referred for elective sterilization. His past medical history was negative, with no history of diabetes, immunocompromised state or vascular disease. Vasectomy was performed under local anesthesia using 1% lidocaine without epinephrine via two separate scalpel-less incisions on the upper lateral aspect of each hemiscrotum. A single simple interrupted 3-0 chromic gut suture was used to close each incision. There were no intraoperative complications. He was discharged home minutes following the procedure and applied ice packs to his scrotum, 10 minutes on and 10 minutes off during waking hours, for the first 2 days. The patient's ice pack was placed on the lateral aspect of each hemiscrotum and consisted of a surgical glove containing frozen peas or corn. A clean tea towel was placed between the ice pack and scrotal skin. He experienced right hemiscrotal pain and swelling and on the second postoperative day, he noticed a small red yellow blister surrounded by a 1 cm brown colored area at the site of the right hemiscrotal suture. The swelling and brown colored area increased over the next day and he presented to the emergency department on postoperative day # 4. On examination, he appeared well, nontoxic and his vital signs were stable. The right hemiscrotum appeared swollen and erythematous without any palpable crepitus or gas in the subcutaneous tissues. There was an obvious 5 cm x 4 cm area of necrosis at the site of the suture, Figure 1. Scrotal ultrasound did not reveal any evidence of gas. He was admitted to hospital overnight for observation and intravenous cloxacillin was administered. Computed tomography (CT) scan of scrotum and pelvis showed no evidence of necrotizing fasciitis.

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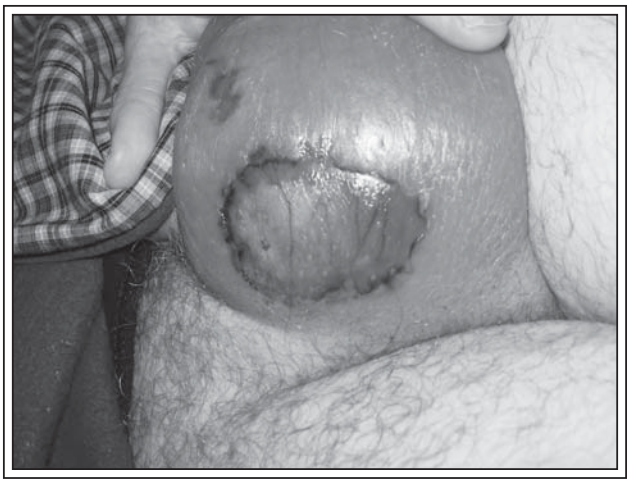

Figure 1. Appearance 4 days following vasectomy.

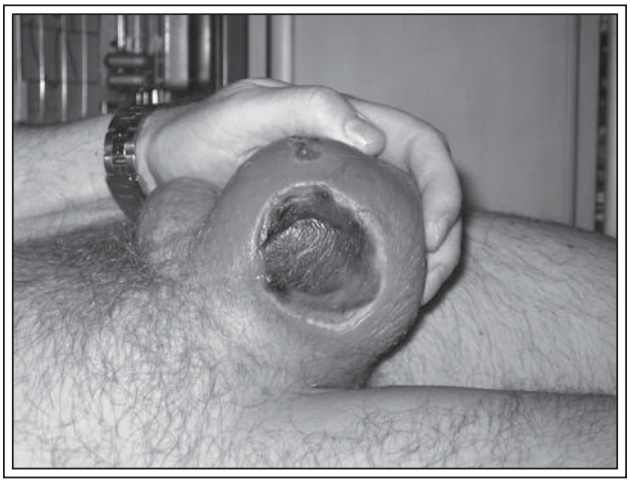

Figure 2. Two weeks following vasectomy.

Figure 3. Six weeks following vasectomy.

Figure 4. Twelve months following vasectomy.

The next day he remained clinically well and there was no change in the appearance of the necrotic scrotal skin. He was discharged home with wet-to-dry dressing changes twice daily and strict instructions to seek urgent medical attention should he develop increasing pain, swelling, skin redness or fever. He was reassessed at 1 week, 2 weeks, Figure 2, and 6 weeks, Figure 3, and found to be clinically well with progressively decreasing scrotal inflammation. The necrotic ulcer was treated with autolytic debridement using Silvercel (Johnson & Johnson, Langhorne, PA) antimicrobial hydroalginate dressings. The dressing changes were administered once daily and were successful in achieving adequate debridement, allowing the patient's necrotic skin ulcer to heal over a period of 4 months. There were no treatment-related complications and the patient was well and had fully healed at 1 year follow up, Figure 4.

Discussion

With over 500,000 being performed each year, vasectomy is one of the most commonly performed operations in men in North America.[3] Fortunately, serious life threatening complications, such as necrotizing fasciitis,

following vasectomy are rare.[1,2] There are only seven reported cases of postvasectomy Fournier's gangrene in the literature,[4-8] one of which was lethal.[9] However, skin necrosis not related to Fournier's gangrene following vasectomy has not been previously reported. This case represents the first reported case of postvasectomy skin necrosis secondary to ice packs specifically. In the seven above noted reported cases of postvasectomy Fournier's gangrene, signs or symptoms of infection first appeared between 3 hours and 8 days following vasectomy. Fournier's gangrene must be ruled out in any patient presenting with skin necrosis, especially if there is a risk factor such as recent skin violation such as vasectomy. A missed diagnosis would result in delayed treatment, which in turn could result in death. In our patient, Fournier's gangrene was ruled out by physical examination and diagnostic imaging studies.

Treatment options were discussed with our patient, including surgical and nonsurgical scrotal debridement. Surgical debridement and skin grafting was offered to our patient. However, he was self employed and wanted to minimize time off work. For this reason, decision was made to proceed with autolytic debridement using Silvercel antimicrobial hydroalginate dressings. This type of autolytic debridement combines the broad spectrum antimicrobial activity of silver with effective wound exudate management properties of hydroalginate, which forms a gel on contact with exudate and maintains its integrity thereby facilitating dressing removal by the patient.[10]

At the time of initiation, the ulcer measured 5 cm circular with moist necrosis, moderate drainage and surrounding periwound skin erythema. Intertrigo was noted within the right groin fold. Silvercel was applied to the ulcer for the benefit of its absorbency and antimicrobial properties. The patient's wishes of not to involve visiting nurses and to choose a comfortable dressing to maintain a dryer state was respected and achievable with use of Silvercel dressings. The patient was taught to apply his own dressings on a daily basis as well as to treat the intertrigo within the right groin with a skin barrier powder.

Our patient was given the usual verbal and written postvasectomy instructions regarding wound care and activity. Specifically, he was instructed to apply an ice pack such as a frozen bag of peas for 10 minutes each 1-2 hours while awake for the first 2-3 days to minimize scrotal swelling. Obviously, there was a miscommunication, as the patient applied an ice pack 10 minutes on and 10 minutes off, constantly for the first 2 postoperative days. This miscommunication demonstrates what a health care provider says and what a patient understands can be two different things altogether. As a result of this complication, we recommend that clear verbal and written instructions are given to the patient and spouse (when possible) at the very end of the visit. By maximizing the duration of time between the shock of having one's scrotum violated under local anesthesia and the receiving of postoperative instructions, the likelihood of miscommunication is decreased. It is easy to conceive how any young man who has just undergone a scrotal operation under local anesthesia might not properly hear and process such important instructions. In our experience, many men just nod their heads in agreement when receiving the instructions because they want to leave the clinic as quickly as possible.

We believe that family physicians, urologists and other physicians performing vasectomies and other scrotal procedures under local or general anesthesia should be aware of rare but important complications such as skin necrosis, as well as the prevention of excessive usage of ice packs through clear and effective verbal and written communication with the patient and spouse. We conclude that proper communication may help prevent this uncommon yet severe complication in our future patients. □

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