Spontaneous abscess of the corpus cavernosum

Georgios Zervopoulos, Konstantinos Bouropoulos, Athanasios Argyropoulos, Iraklis Poulias
Department of Urology, Hellenic Red Cross Hospital “Korgialeneio - Benakeio”, Athens, Greece

Abstract

Corpus cavernosum abscesses are very rare. They have been associated with intracavernosal injection therapy, foreign bodies, perineal abscesses extension, priapism and bloodstream seeding from another primary site. Diabetes is a major risk factor for cavernosal abscess due to the presence of microvascular disease and the relative immune system suppression. The causative organisms are Staphylococcus aureus, Streptococci, Enterococci, Bacteroides, Neisseria gonorrhoea, Mycobacterium tuberculosis, Escherichia coli, Klebsiella and Actinomyces. We present a case of corpus cavernosum abscess in a diabetic patient who was treated with surgical drainage and antibiotics.

Introduction

Abscess of the corpus cavernosum is an uncommon infection. Only 23 cases have been reported in the literature. Precipitating factors include intracavernous injection therapy, foreign bodies, perianal abscess extension, priapism and bloodstream seeding from another primary site. Diabetes is a major risk factor for cavernosal abscess due to the presence of microvascular disease and the relative immune system suppression. The causative organisms are Staphylococcus aureus, Streptococci, Enterococci, Bacteroides, Neisseria gonorrhoea, Mycobacterium tuberculosis, Escherichia coli, Klebsiella and Actinomyces. We present a case of corpus cavernosum abscess in a diabetic patient who was treated with surgical drainage and antibiotics.

Case Report

A 69 year old patient was presented in the emergency department with urinary irritative and obstructive symptoms and fever to 39.5 °C. He was diabetic and the remaining history was unremarkable. Digital rectal examination demonstrated an enlarged non tender prostate. Mild penile swelling at the right base was observed with induration and tenderness along the right penile shaft. From the laboratory tests there was a leucocytosis (25.5x10⁹/ml) with polymorphonuclear type and a C - Reactive Protein (CRP) of 187. The rest of blood investigations were normal. The urinalysis was normal as well. He underwent a CT scan which showed an abscess in the corpus cavernosum with dimensions 7.2x2.5x5 cm (figure 1).  

The decision for surgical drainage was taken. We placed a suprapubic cystostomy tube and we did a midline perineal incision and the abscess was drained and irrigated (figure 2). We left a penrose drain inside the corpus cavernosum and the trauma was left open to heal by secondary intention. There was no significant haemorrhage from the cavernosal body. In the surgical management we followed the similar principles with Fournier’s gangrene. We did extensive debridement of all the necrotic and infected tissue. The culture from the purulent drainage revealed Enterococcus faecalis sp. and meropenem was prescribed according to the sensitivity test.

Key words

Corpus cavernosum; cavernosal abscess
Spontaneous abscess of the corpus cavernosum: report of a case p. 61 - 63

Discussion

Spontaneous cavernosal abscess has been described as an abscess without an identifiable underlying cause. In previous reports of spontaneous cavernosal abscesses, attempts have been made to identify an underlying cause as an infection from the overlying skin, external trauma, and hematogenous spread with subsequent seeding of the cavernosa. Some authors reported on a patient in whom oral pathogens were isolated from the culture of the cavernosa with coexistence of a periodontal abscess. Tuzer E. reported a spontaneous corpus cavernosum abscess in a healthy man using long term androgenic anabolic steroids. These drugs have been considered to be immunosuppressive. In our patient the overlying skin was clearly uninvolved in the infection and there was no evidence to suggest an occult traumatic event leading to secondary infection. Enterococcus faecalis sp. is known to inhabit the gastrointestinal tract but it can cause significant distant infections under appropriate conditions.

Corpus cavernosal abscesses are also associated to diabetes mellitus (25% of the cases) and other forms of immunosuppression or use of steroid drugs. The most common presenting symptoms were penile pain and swelling. Overall in one third of the the cases the abscesses were bilateral. Clinical manifestations may vary from painless penile volume increase and tumefaction, which can be confused with priapism to potentially fatal septic conditions.

Ultrasound of the corpora is the most widely used and displays hypoechoic, heterogeneous zones with no Doppler signal in their interior. CT scan provides the presence of gas and fluid inside the corpus.

Some authors reported that the most common etiologic agent is E. Coli followed by Neisseria gonorrhoeae in patients with previous history of sexually transmitted diseases. Other authors reported that the most common causative organisms were S. Aureus (25%), Streptococci (21%), Fusibacteria (13%) and Bacteroids (13%).

Standard treatment consists of drainage via incision, followed by broad-spectrum antibiotics. Postoperative drainage has been obtained with open packing, penrose drains as well as closed suction drains. The most commonly possible complications include poor erectile function, secondary fibrosis leading to penile deviation or abscess recurrence, although most patients regain normal anatomical and erectile function. These postoperative complications can be managed by implantation of penile prosthesis or surgical intervention to correct the penile deviation. In our case the patient has reported sexual dysfunction before the operation.

According to some authors less invasive interventional techniques may offer a lower risk for long term sequelae. Thanos L et al., described a case of a cavernosal abscess that was successfully treated with CT guided aspiration and pigtail catheter placement as well as broad spectrum antibiotics. The procedure was performed under local anesthesia with minimal trauma to the corpus cavernosum. They reported complete resolution of the abscess with no result-
Spontaneous abscess of the corpus cavernosum: report of a case p. 61 - 63

ant erectile dysfunction. Some authors reported that three weeks after the initial operation one patient developed a recurrent abscess with methicillin resistant Staphylococcus aureus and a total penectomy was performed. Other authors also reported abscess resolution with single aspiration and systemic antibiotics. Estimating the risk of cavernosal fibrosis and abscess recurrence with incomplete evacuation of the abscess, incision and drainage remains the mainstay of therapy.

In conclusion abscess of the corpus cavernosum is a rare infection that is frequently idiopathic. It may be a result of intracavernosal injection therapy, perineal abscess extension and septic metastases. It should be suspected in the differential diagnosis in patients with penile swelling and well established risk factors such as diabetes, immunosuppression, instrumentation and chronic infection. Surgical drainage is the effective treatment of choice but carries a substantial risk of erectile dysfunction and penile deviation.

References