Uzamış Ískemik Priapizmli Çocukta Tünel Siz T-Şunt Uygulaması
T-Shunt Without Tunneling For Prolonged Ischaemic Priapism in A Child
Olgu Sunumu

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Oktay Üçer¹, Bilal Gümüş³

¹ Celal Bayar Üniversitesi Tıp Fakültesi Üroloji A.B.D.
³ Celal Bayar Üniversitesi Tıp Fakültesi Üroloji A.B.D.

Özet


Abstract

Priapism can be described as a “prolonged and persistent penile erection unassociated with sexual interest or stimulation.” [1]. This condition occurs very infrequently in pediatrics outside of the sickle-cell population [2]. Pathophysiologically, priapism can either be high-flow (non-ischemic) priapism or low-flow (ischemic) priapism [3]. Although the most common cause of low-flow priapism in children is sickle-cell anemia, the most common cause in adult is medication. The most common cause of high-flow priapism is genital and pelvic trauma [4]. Here, we report unilateral T-shunt without tunneling in a child with low-flow priapism who had spasticity and mental retardation.

Keywords: Ischaemic priapism,

Introduction

Priapism can be described as a “prolonged and persistent penile erection unassociated with sexual interest or stimulation” [1]. This condition occurs very infrequently in pediatrics outside of the sickle-cell population [2]. Pathophysiologically, priapism can either be high-flow (non-ischemic) priapism or low-flow (ischemic) priapism [3]. Although the most common cause of low-flow priapism in children is sickle-cell anemia, the most common cause in adult is medication. The most common cause of high-flow priapism is genital and pelvic trauma [4]. Here, we report unilateral T-shunt without tunneling in a child with low-flow priapism who had spasticity and mental retardation.

Case Report

A 11-year-old boy was admitted with painless rigid erection of 24 hours. Physical examination revealed a painless rigid erection. There were no other urogenital pathological findings on physical examination. The peripheral blood count showed a hemoglobin level of 12.3 g/dl, a hematocrit value of 35.4%, platelet count of 178.000/mm³ and a white blood cell count of 9.190/mm³ with normal differential. The serum biochemistry and hemoglobin electrophoresis were normal. The rigidity of the erection decreased slightly following intracavernous aspiration/irrigation, but complete detumescence did not occur. The cavernous blood gas testing revealed a pH of 7.03, a partial pressure of CO2 of 56.3 mmHg and a partial pressure of O2 of 20 mmHg. Intracavernous injection of adrenaline (1/200.000) and irrigation were performed, but complete detumescence did not occur. Unilateral (right corpus cavernosum) T-shunt without tunneling was performed and immediately penile detumescence was observed. Penile rigidity did not recur within 15 minutes of creation of unilateral T-shunt so the procedure was not repeated on the contralateral side. The patient was discharged from our clinic 1 day after the operation. The patient’s parents provided written consent to use the information for the case report.

Discussion

Sorumlu Yazar: Oktay Üçer, Celal Bayar Üniversitesi Tıp Fakültesi Üroloji A.B.D.
Oktay UCER oktay@yahoo.com

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The goal of all treatment is to make the erection go away and preserve future erectile function. In adult, treatment options include: ice packs, surgical ligation (used in cases where an artery has been ruptured), intracavernous injection (used for low-flow priapism), surgical shunt (used for low-flow priapism, a shunt is a passageway that is surgically inserted into the penis to divert the blood flow and allow circulation to return to normal) and aspiration [3]. Some authors reported that Winter shunt was safely performed on ischemic priapism in children [4,5]. On the other hand there are no children who were performed T-shunt with or without tunneling in literature.

The T-shunt is indicated in cases of ischemic priapism that are refractory to intracavernous injection of diluted α-adrenergic medications. In ischemic priapism of > 3 days’ duration, tissue death and edema can obstruct blood flow from the proximal to distal corpus cavernosum; in these cases a T-shunt alone might be insufficient to restore penile circulation and consideration must be given to placing a bilateral T-shunt with tunneling of each corpus cavernosum, using a rigid straight 20–24 F urethral sound or dilator [6]. The initial treatment was not successful so we performed unilateral T-shunt without tunneling in the child and the procedure was successful.

Three-step treatment is recommended for low flow priapism in adult; if ischemia time is less than 24 hours, evacuation of old blood and diluted α-adrenergic should be performed; if ischemia time is between 1 and 3 days, T-shunt without tunneling will be enough for complete detumescence; if ischemia time is more than 3 days, T-shunt with tunneling needs to be performed [6]. Three-step treatment protocol can also be used in children with low flow priapism. We suggest that unilateral T-shunt without tunneling can be safely used in pediatric priapism.

References