

CASE REPORT / PRESENTACIÓN DE CASO



Priapism after spider bite

Priapismo después de mordedura de araña

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Abstract

Introduction: some spider bites specific the Black Widow Spider Envenomation (BWSE) is commonly associated with severe abdominal pain, muscle cramping, hypertension and priapism. Treatment is primarily symptomatic with the use of opiates and benzodiazepines. Priapism is a complication of BWSE that it has only rarely been reported.

Case report: it describes an 11 years old male who developed priapism after spider bite admitted in Letsholathebe II Memorial Hospital Maun, Botswana. He was treated with diazepam, steroids and diphenhydramine in Emergency as well as local management.

Conclusion: the patient required no additional opiates for pain and he was discharged from the hospital 2 days after the admission.

Key words: Priapism; Spider bites; Abdominal pain

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Resumen

Introducción: algunas mordeduras de araña, específicamente por la araña conocida como Viuda Negra, se asocia frecuentemente con intenso dolor abdominal, calambres musculares, hipertensión y priapismo. El tratamiento es inicialmente sintomático con el empleo de opioides y benzodiazepinas. El priapismo es una complicación de la mordedura por la araña Viuda Negra que solo se ha reportado raramente.

Caso clínico: se describe un niño de 11 años que desarrolló priapismo después de la mordedura de araña admitido en el Hospital Letsholathebe II en Botswana. Fue tratado con diazepam, esteroides y difenhidramina en emergencias, así como tratamiento local.

Conclusiones: el paciente no requirió narcóticos adicionales para el dolor y fue egresado del hospital 2 días después de la admisión.

Palabras clave: Priapismo; Mordedura de araña; Dolor abdominal

Introduction

Superstition surrounding spiders were reported in Greek mythology when the jealous goddess Aphrodite transformed Arachne into spider. In the 17th century, southern Europe experience a panic over the bite of a spider that is thought to have been a type of wolf spider, *Lycosa tarantula* and a dance called "tarantella" was devised to protect bite victims.¹

Black widow spiders (*Lactrodectus mactans*) produce one of the most potent known venoms.² The venom is chiefly a neurotoxin in human beings with symptoms most often manifested as severe skeletal muscle pain and cramping³ and autonomic disturbances such as diaphoresis and hypertension.³

Black Widow Spider Bites Envenomation (BWSE) in children although still a potentially serious and deadly event, is often better tolerated in children than in healthy adults. Typical effects include

severe abdominal pain, muscle cramping, and hypertension. There is often a transient target lesion at the bite site. Priapism is an unusual manifestation of BSWE that has seldom been reported.

Treatment with antivenin to BWS toxin is currently recommended for severe envenomation associated with severe pain not relieved by opioid analgesics or life-threatening hypertension.¹⁻³

Therapy for priapism has not been well delineated. We describe a child with documented BWSE (the specimen was analyzed by local epidemiologist) who developed priapism after initial management with benzodiazepines, steroids and antihistaminic the priapism disappeared. A variety of treatments have been suggested as muscles relaxants, IV calcium gluconate, opioids, and *Lactrodectus* antivenin, steroid is not necessary.³

Case report

A healthy 11 years old male developed acute abdominal cramps, testicular pain, and penis erection after to be bitten in his foot by spider with the characteristic of BWS. The patient's mother found the spider in the pillow where he was sleeping. On examination

he was normotensive but mild tachycardia (heart rate: 110 beats per minute). On physical examination revealed mild edema in the right foot, and no classic target lesion was seen at the bite site. Laboratory results showed the following results:

WBC-21.10xmm³
Platelet count-262xmm³
Neutrophil-82.6
Lymphocyte-9.3
Monocyte-8.0
Eosinophil-0.02
Basophil-0.1
Alanine amino transferase-24 UI

Aspartate amino transferase-43 UI
GGT-18 UI
Total Protein-79 g/l
Serum Albumin-50 g/l
Sodium-142 mmol/l
Potassium- 4,2 mmol/l
Chloride-98 mmol/l
Glucose-5 mmol/l

Patients was treated with diazepam, steroids and diphenhydramine in Emergency Department in Letsholathebe II Memorial Hospital Maun, Botswana, he remained with priapism, penis pain and abdomen soft. The patient was admitted in a pediatric ward through bladder catheterization was obtained urine. Urology was consulted by phone, and priapism was diagnosed. In urological examination noted erect corpora and flaccid glans consistent with high-flow (non-ischemic) priapism. The corpora detumesced with compression, but the erection returned on

release, antivenin for BWS spider was not available on recommendation with the Urologist and Toxicology in Gaborone City the patient continue with sedation and strict observation.

Complete detumescence followed within 3 hours. On later examination, the patient achieved partial erection with manipulation and spontaneous resolution. Edema of the foot was improved, as well as the abdominal signs and he was discharged from the hospital without symptoms two days after admission.

Discussion

The BWSE syndrome usually involves a pinprick sensation at the bite site, which is brief in duration. Severity of envenomation depends on the size of the spider, depth of the bite, and the age and size of the victim. Children, the elderly, and persons with cardiovascular disease are considered at high risk for serious complications and worse symptomatology.⁴

Approximately 30 to 60 minutes after envenomation, proximal muscle cramping occurs particularly of the chest, abdomen and back. Symptoms can progress to waxing and waning muscle rigidity and severe pain.

Findings can often be confused with an acute abdomen, especially in children. Autonomic nervous system stimulation by venom produces nausea, vomiting, sweating, hypertension, and tachycardia.

Treatment is generally supportive, and only those patients who require repeated doses of medication to relieve symptoms warrant hospital admission.

Treatment is primarily symptomatic, with the use of opiates and benzodiazepines for the management of pain and muscle spasms. Calcium gluconate was previously recommended as the treatment of choice, especially in

patients who arrived 3 hours after being bitten.⁴

Antivenin should be administered only in a location where anaphylaxis can be treated, such as an emergency department or intensive care unit. Priapism is a pathologic condition of penile erection that persists beyond or is unrelated to sexual stimulation.

Peak incidence in children is from ages 5 to 10 years and is usually associated with sickle-cell disease or some others hemoglobinopathy.⁵ Priapism is thought to occur because of a disturbance in the regulatory mechanisms that maintain penile flaccidity.

Priapism can be separated into 2 distinct hemodynamic forms: low flow (ischemic) or high flow (no ischemic).⁶ Low-flow priapism results from a decrease in venous outflow from the penis and is characterized by venous stasis and penile ischemia. It is usually a painful, rigid erection characterized clinically by absent cavernous blood flow.

Low flow priapism beyond 4 hours results in a compartment syndrome and requires emergent medical or surgical intervention. High-flow priapism results from increased arterial flow into the cavernosal sinusoids, which overwhelms venous outflow, leading to persistent erection. High-flow priapism is often

caused by groin or straddle trauma that results in injury to the internal pudenda artery or its branches.⁶ Priapism with BWSE has only rarely been noted.

In 1982 by Stiles reported treatment with antivenin for presumed BWSE in a 4-year-old with distress, muscle rigidity, hypertension, and priapism.⁷

Symptoms were consistent with BWSE, but no spider exposure or sting puncture wound was documented. The patient had dramatic improvement in his muscle rigidity and discomfort within 30 minutes, but priapism and hypertension took twelve hours to resolve. One postulated mechanism for priapism in BWSE is through release of neurotransmitters such as acetylcholine and epinephrine, leading to diffuse neuromuscular, autonomic, and central nervous system effects.⁷

BWSE may cause overstimulation of the parasympathetic system, resulting in smooth muscle relaxation and increased blood flow into the sinusoids.

Priapism also could be caused by the release of acetylcholine at the neuromuscular junction, with resulting obstruction to penile venous outflow by spasm of the ischio-cavernous and bulbo-cavernous muscles, in our patient, priapism resolved with benzodiazepines rather than surgical urologic intervention.

Conclusions

Priapism is a complication to be considered after spider bite (BWSE). Opiates and benzodiazepines are used for the management of pain and muscle spasms.

Antivenin should be administered only in a location where anaphylaxis can be treated, such as an emergency department or intensive care unit.

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