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Epididymal Filariasis in a Child

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While genital filariasis is a common tropical disease of adults, it rarely presents in childhood. We present a rare case of epididymal filariasis in a child who was diagnosed accidentally after excision of a scrotal swelling. We review the relevant literature and discuss the diagnostic and therapeutic options of the disease.

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Genital filariasis is a common tropical disease, acquired in childhood and gives rise to serious complications in adulthood. Wuchereria Bancrofti parasite accounts for 90% of cases. The disease commonly presents as funiculoepididymitis, a condition that frequently simulates malignancy or bacterial infection[1, 2]. Therefore, the diagnosis is difficult especially in non-endemic areas like Bahrain where the disease is rare. Treatment is based on antitifilarial drugs, which are not completely effective in eliminating the infection, while there is no general agreement on the role of surgery, which is currently limited to treat the complications[2]. We present a rare case of epididymal filariasis presented in a child with scrotal swelling and discuss the different diagnostic and therapeutic options of the disease.

THE CASE

The patient was a ten years old boy who presented with painful, progressively enlarging, right-sided scrotal swelling of three months duration. The patient was not complaining of fever or any urinary symptoms and review of the other systems was unremarkable. He was not known to have any past illness or trauma to genitalia. The patient gave a history of travel to Iran six months prior to the onset of the symptoms .On examination a hard mildly tender swelling measuring 1x 2 cm was felt in the lower pole of the right testis, but no palpable lymph nodes were detected. Scrotal ultrasound showed a solid mass at the inferior pole of right testis, a finding that raised the suspicion of malignancy. Therefore, CT scan of chest and abdomen was requested, but the result was normal. Blood investigations including complete blood count, eosinophilia, erythrocyte sedimentation rate and tumor markers were all normal. The patient underwent right groin

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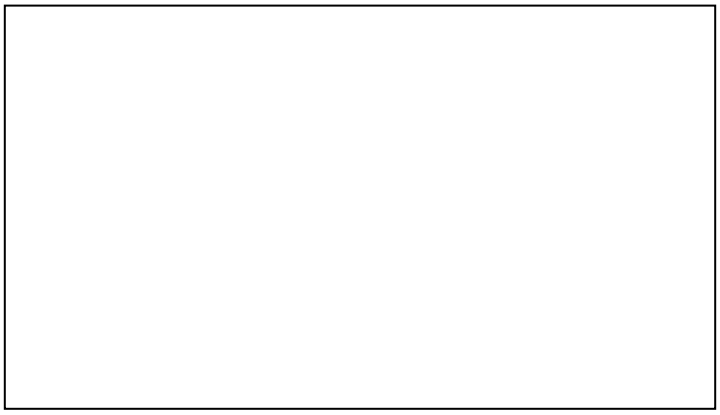

Figure 1. Ultrasound showing a small heterogeneous (1x1 cm) mass in the tail region of the right epididymis suggestive of inflammatory changes.

exploration and an epididymal mass was excised. Histology revealed epididymitis with an area of an abscess formation containing numerous segments of worms, the appearance of which was suggestive of filariasis. Two months after the surgery, he developed a recurrent swelling at the same site of the scrotum. We explained to the parents that this swelling was probably due to recurrence of filariasis and further assessment and management was needed; however, they did not attend for follow up at the clinic.

DISCUSSION

Genital filariasis is a widespread, seriously handicapping tropical disease of adults. Wuchereria Bancrofti parasite accounts for 90% of the infections and is transmitted to humans by mosquitoes that inject microfilariae into the host. The microfilariae migrate through the venous system and eventually reside in the lymphatics. In men, there is a preference for the lymphatics of the spermatic cord, where death of adult worms provoke the acute filarial lesions, which vary from nodular inflammation, simulating a neoplasm, to suppuration, simulating an acute bacterial disease. Most infections appear to be acquired in childhood, with a long period of *asymptomaic or subclinical* disease that progresses to characteristic overt clinical manifestations of adults that frequently involve the genetilia. The *acute* manifestations include funiculoepididymitis, orchitis, lymphangitis, filarial abscess or lymphadenitis, while hydrocele and scrotal/leg lymphedema are the most common *chronic* sequelae of the disease[1,2].

The tail of epididymis and the lower spermatic cord are often the sites found to be affected in mild infections[3]. Filarial funiculoepididymitis frequently simulates malignancy; therefore, management of this condition requires thorough work-up to differentiate malignant, filarial and bacterial etiologies. Peripheral eosinophilia and calcified worms on a plain x-ray film are diagnostic aids, though, not invariably present. Currently the antigen test using ELISA technique is regarded as the gold standard for diagnosing filarial infection[1]. Ultrasound examination of the lymphatics may reveal rapidly moving (dancing) adult worms, and lymphoscintigraphy, though not diagnostic of filarial infection, may identify gross anatomical and functional abnormalities of the lymphatics and may distinguish filariasis from other causes of lymphatic obstruction[2,4].

The prognosis of epididymal filariasis is uncertain. Some cases may involute spontaneously, but in endemic areas future recurrence is common[5]. Early drug treatment of individual patients with the infection had shown to reduce the later sequelae of the disease, including the genital pathologies[2]. The recommended regimen for treatment is Diethylcarbamazine combined with albendazole for two to three weeks. Ivermectin has proved to be an effective microfilaricide, comparable to diethylcarbamazine with fewer toxic reactions. These regimens are not completely effective in eliminating the adult worms; therefore they are frequently repeated at 1-6 monthly intervals[6,7].

The criteria of surgical intervention have not been established in the literature, and role of surgery is limited to treat the complications of the disease. Treatment of later sequelae of funiculoepididymitis may involve surgical decompression or excision of filarial nodules, preserving the testis and cord. When funiculoepididymitis is recurrent, painful, and deforming or complicated by blood vessel involvement, more radical surgery is advised[2,8].

Filariasis is very uncommon disease in Bahrain and the patient might have acquired the infection when he was in Iran. This disease, though acquired in childhood, rarely presents in this age group[1]. The etiology of the scrotal swelling in this case was initially thought to be malignant, and only after excision of the mass, the diagnosis of filariasis was achieved. The recurrence of the scrotal swelling strongly raises the possibility of recurrent filarial nodule, but still other causes should be ruled out. There is no evidence in the literature that simple aspiration of the nodule can be of diagnostic value, while excesional biopsy, though, rarely used as a diagnostic procedure, can often detect adult worms. Starting an antifilarial regimen is strongly advised in the literature to eliminate the infection, but there is no clear evidence that drug treatment alone can result in complete regression of the nodule. Surgical options include excision of the nodule, with the risk of recurrence, or a more radical surgery in the form of orchidectomy, which will lead to loss of one testis. Radical surgery to eradicate all the nests occupied by the adult worms is advised in cases of recurrent epididymal filariasis[2,8].

CONCLUSION

Epididymal filariasis is a rare disease of childhood and imposes a diagnostic challenge for the treating physician. Early medical treatment of infection halts further damage of lymphatics and prevents recurrence and later sequelae of the disease. Surgery has an important role in the management of the complications. This case shows a rare form of epididymal filariasis in a child who was diagnosed accidentally after excision of a scrotal swelling.

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