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Pathology

Submammary Onchocercoma: Report of an Imported Case

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Abstract **Case Report**

Onchocerciasis is a devastating tropical disease that makes 18 million people suffer in Africa, the Arabian peninsula and Latin America. It is a filariosis characterized by dermatological, ocular and systemic manifestations and is due to infection by a nematode of the genus Onchocerca volvulus, transmitted by the SIMULIA sting. Parasites live in subcutaneous tissue or tangled in fibrous nodules: onchocercomas. This filariasis is rightly feared for its ocular location that can cause blindness. The specific diagnosis is based on the detection of microfiliars by exsangue biopsy. The mass treatment of populations exposed by ivermectin has resulted in a significant decline in onchocerquian endemicity and global complications over the past decade. We report a case of a young woman of 20 years of Cameroonian origin who consulted for pruritic annular lesions of the legs and torso and in whom the examination found a nodule under mammary which was surgically excised and whose pathological examination has objectified the presence of multiple microfiliars within granulomas.

Keywords: Onchocerciasis, Onchocercoma, devastating tropical disease.

INTRODUCTION

Onchocerciasis is a serious parasitic disease that usually occurs only in the tropics. Its clinical symptomatology is very varied and the diagnosis is above all parasitological, rarely anatomopathological by the detection of adult worms in a suspected nodule on radiology and endoscopy. Ivermectin is the treatment of choice. We report a case collected in the pathological anatomy department of the Military General Hospital of Rabat.

OBSERVATION

A 20-year-old girl, of Cameroonian origin, residing in Morocco for 4 years with precarious living conditions, without notable pathological history, consulted for pruritus of the legs, accompanied by hypochromic spots. pretibial bones evolving for 8 months.

The physical examination found discreet annular, erythematous, rather fleeting lesions on the ankles, achromic scars followed these lesions with the presence of a subcutaneous nodule of the right costal grill in the submammary position. The rest of the somatic examination found no peripheral lymphadenopathy and was unremarkable.

Morphologically, chest X-ray and abdominal ultrasound were strictly normal. The ophthalmological consultation showed no abnormalities and the gastroscopy was strictly normal.

The biological assessment did not reveal blood eosinophilia and leucocytosis was normal. Platelets were at 169,000/mm3, haemoglobin electrophoresis showed the presence of haemoglobin S at 37% with a decrease in haemoglobin A1 indicating sickle cell disease. The parasitological examination of the stool did not find parasites, when the serology of filariasis was positive at 1/160th.

Surgical removal of the breast nodule was then performed. The pathological anatomy laboratory had received a 1.5x1x0.6 cm skin fragment whose section revealed a 0.9 cm nodule.

Histological examination showed under a normal superficial and medium epidermis and dermis, a hypodermis occupied by a nodule limited by a fibrous capsule of variable thickness and containing a polymorphic granuloma with giant multinuclear cells and rare eosinophilic polynuclear cells. These elements were arranged around many microfilariae.

The diagnosis of onchocercoma was then retained and the patient received treatment with ivermectin.

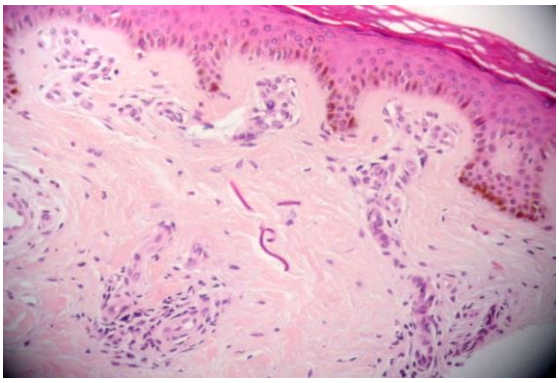

Fig-1: Microscopic appearance at low magnification highlighting microfilariae at the dermis (Haematein-Eosin Colouring).

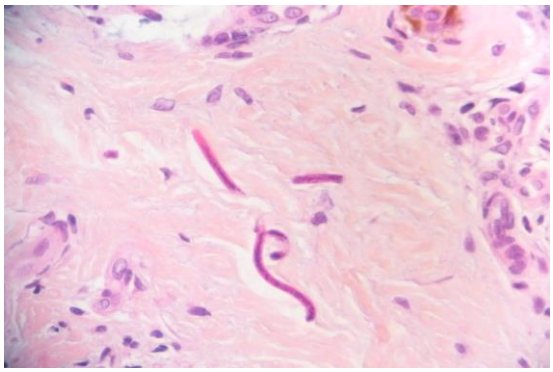

Fig-2: Appearance at the highest magnification of the microfilariae (Haemateine-Eosin Colouring).

DISCUSSION

Onchocerciasis is a parasitosis caused by Onchocerca volvulus, a nematode of the family Filarioidea. It is a filaria transmitted by the bite of a Simulia and affects the skin and eyes, causing blindness.

There are two global centres: Central Africa and Central America. The African Onchocerciasis Control Program (APOC) estimated 119 million Africans at risk and 21 million infected [1-3].

Onchocerciasis is often called river blindness because the black flies that transmit the disease develop on rivers and mainly affect riparian populations. Blindness is caused by dead microfilariae - larvae that can be produced for 15 to 18 years by adult worms - inside the eye. These disintegrating bodies damage the surrounding tissues (often the cornea), and if adult reproductive worms are not attacked, blindness will follow. River blindness is common in the savannah areas of Africa and Guatemala and Mexico. In forest areas (as opposed to savannah), the transmission of onchocerciasis is perpetual rather than seasonal and blindness is rar [4].

Other symptoms of the disease include changes in skin pigmentation giving a leopard skin appearance, skin swelling, papules and skin lichenification with a flaky skin appearance (leizard skin). In newly acquired infections, severe itching is common. Nodules that can grow and become as large as a pigeon egg are found in the pelvic region or in the upper chest and head region. In Yemen and northern Sudan, a form of onchocerciasis called sowda, with a localised leg infection, is the most common form. [1- 6, 17, 19, 20].

Diagnosis is made on the basis of a set of clinical symptoms and epidemiological history; it is made by identifying eye and skin lesions in people with permanent residence or a history of prolonged visits to endemic areas. The parasitological diagnosis confirms the clinical impression. Detection by palpation and subsequent dissection or artificial digestion with collagenase from excised nodules makes it possible to identify adult worms. Histological diagnosis is based on the detection of dermal microfilariae with bloodless skin biopsy. These microfilariae can trigger a granulomatous reaction or an eosinophilic infiltrate. This histology is sometimes non-specific with discreet inflammatory infiltrate with eosinophilic polynuclear and mast cells.

Hyperkeratosis, acanthosis, focal parakeratosis, tortuous dermal vessels with acid mucin between dermal collagen fibres and elastolysis, are all histological signs that can be seen in onchocercomas. The differential diagnosis can be made with a sarcoptic scabies or a pruriigo by insect bites.

Imported cases of onchocerciasis in non-endemic territories are established late. The time between the return of the tropics and diagnosis can be 2 years or more.

Until 1987, treatment was generally with diethylcarbamazine, which could remove microfilariae from the skin or suramine. In 1987, the World Health Organisation began distributing a drug: Ivermectin, developed for use against livestock parasites.

Although it does not kill the adult parasite, it eliminates microfilariae and is surprisingly safe and effective [8, 12, 15, 17].

CONCLUSION

Onchocerciasis is a parasitosis classically localized in Africa, Central America and South America and increasingly present in northern countries due to the development of migratory movements. This should be considered in people who have stayed in endemic areas because even if the ocular manifestations are generally benign, they must be recognized because of their spectacular and sometimes dramatic nature.Treatment is

based on the extraction of the worm and the administration of Diethylcarbamazine and Ivermectin.

To fight against the disease, there are two main types of solutions: Insecticides to be spread on fertile plains and valleys rich in rivers because they are the breeding ground for blackflies, vectors of onchocerciasis, and administration to populations at at risk or contaminated with ivermectin, an anthelmintic microfilaricide.

Conflict of interest

The authors do not declare any conflict of interest.

Authors' contributions

All the authors contributed to the writing of this work. The authors also state that they have read and approved the final version of the manuscript.

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