Case Report

Chromomycosis in a European renal transplant recipient

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Introduction

Chromomycosis is a chronic infection of the skin and subcutaneous tissues characterized by verrucous, crusted, or ulcerated lesions, resembling squamous cell carcinoma [1], a common complication in renal transplant recipients [2]. Chromomycosis is caused by several types of pigmented fungi growing in soil, decaying vegetation and rotting wood [3]. Most cases occur in tropical and subtropical regions [1]. Reports from Europe are rare, even concerning immunosuppressed patients [4,5]. Worldwide chromomycosis has been only observed in two renal transplant recipients [6]. Thus the macroscopic characteristics of chromomycosis, its rarity, and the high incidence of squamous cell carcinoma in transplant recipients invite erroneous diagnoses.

Case report

A 53-year-old man received a cadaver renal graft in 1990. Renal function remained satisfactory on treatment with cyclosporin and prednisone. The recipient lived in the Southeast of Spain and had never travelled abroad. He used to walk daily in the countryside and had considerable sunlight exposure. In May, 1993 during a walk, he pricked his right lower leg on a thorn. The damaged area became progressively erythematous and swollen. Five months later, when the recipient was examined we saw a 6 x 6 cm area of indurated, ulcerated, and verrucous skin (Figure 1) which was diagnosed as squamous cell carcinoma by the dermatologists and treated by surgical excision. No recurrence was seen during a 16-month time period.

Pathology

Histological examination showed prominent pseudoepitheliomatous hyperplasia and the tissue reaction was a mixed purulent, granulomatous infiltrate. Fungal elements of 10–15 nm with thick walls not deeply stained by H&E and positive for PAS and Grocott’s methenamine silver nitrate were observed within multinucleated giant cells and histiocytes (Figure 2). Spherical and septate hyphal fungal forms were seen.

Mycology

Growth was observed on Sabouraud medium as early as day 3 of incubation. The colonies were filamentous and pinkish, finally becoming black. The conidiogeneous cells were indiffereniated from the vegetative
hyphae being intercalary, terminal, or arising as short lateral branches from hyphae. The conidia were hyaline, single-celled, smooth, ellipsoidal and variable in shape and size. The fungus was identified as *Aureobasidium pullulans*.

**Discussion**

In this case the diagnosis was suspected by histology and confirmed by culture. Our patient had a history of penetrating trauma in the same skin area where chromomycosis developed. Transfer of infection by direct percutaneous inoculation has been demonstrated by culturing the same agent from the patient’s lesion and the tree branch causing the trauma [7].

This case is similar to those described in two renal transplant recipients from the United States [6], although infection developed faster (5 months) in our recipient. Extracutaneous disease is very rare, but a case of cerebral chromomycosis, perhaps favoured by immunosuppression, has been reported in a liver transplant recipient [8].

Patients with chromomycosis seem to have suppressed cell-mediated immunity for some antigens such as fungal antigens [9]. Defective cellular immunity [10] may in principle favour the development of this infection in transplant patients even in non-endemic areas, but despite this consideration no other cases of chromomycosis have been reported in European transplant recipients. Such low frequency may indicate that chromomycosis requires environments and habits (walking bare-foot outdoors) that are infrequently encountered in Europe [3].

The mistaken diagnosis of squamous cell carcinoma was favoured by the characteristic hyperkeratosis of the lesion in a patient with high sunlight exposure in a non-endemic region [2].

In conclusion chromomycosis, although infrequent, must be considered in the differential diagnosis of skin lesions of transplant recipients.

**References**


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