PHAEOHYPHOMYCOSIS: CUTANEOUS, SUBCUTANEOUS, NASOPHARYNGEAL LESIONS

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Abstract - Phaeohyphomycosis is an amalgam of clinical diseases caused by a wide variety of dematiaceous fungi. We are reporting on a 16 year-old patient from Amol with subcutaneous cervical nodes and nasopharyngeal lesions of phaeohypho - mycosis that were confirmed by pathological examination, direct smear, and culture. After treatment with an oral triazole (Itraconazole) for 4 months, all nodes and lesions disappeared and treatment was stopped. A new lesion appeared on his chest wall 8 months, therapy with itraconazole was restarted and continued for a long time.
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INTRODUCTION

Phaeohyphomycosis is a spectrum of clinical diseases caused by a wide variety of dematiaceous fungi. In its broadest sense, phaeohyphomycosis includes a wide spectrum of infections that vary from superficial colonization of the skin or cornea, cyst formation following traumatic implantation of fungus to cutaneous and subcutaneous, cerebral and systemic infections (1). Phaeohyphomycosis has been reported in immunocompetent and immunocompromised patients (AIDS), diabetes and organ transplantation) (2). In subcutaneous phaeohyphomycosis, the patients generally present with a solitary, discrete, asymptomatic, well encapsulated mass or nodes and occasionally the cyst may ulcerate and extrude pus that contains pigmented hyphae (1). Diagnosis is based on pathology, smear and culture. Eight cases of subcutaneous phaeohyphomycosis were diagnosed by Light-Colored fungi (4). The histopathology of usual case is a dense collagenous encapsulation of connective tissue surrounding the abscess. Toward the inner margin of the abscess some palisading epithelioid macrophages and foreign body giant cells as well as Langhans giant cells, neutrophils and occasionally eosinophils and lymphocytes are seen. The fungus is found in the wall of the lesion as well as the center, parallel strands of chestnut brown, septate mycelium 2 to 6 mm in diameter or various yeastlike cells or various other forms (1). Most cases of subcutaneous phaeohypho - mycosis have responded to surgical excision. This must be done carefully because contamination of the surrounding tissue may result in recurrence of the lesion or possible spread (1). For this reason an antifungal drug is given along with surgery (1,2). These include amphotericin B, 5-flucytosine, ketoconazole (1,3), oxiconazole (5) and itraconazole (3, 6, 7). We report a case of phaeohyphomycosis with multiple subcutaneous nodules and nasopha- ryngeal lesions that responded to itraconazole, but the duration of treatment was short and the patient returned with cutaneous lesion.

CASE REPORT

A 16 year-old boy from Amol was admitted with cervical nodes, nasal speech and nasal obstruction for 3 months. He hadn't any complaint from other organs and his past history was negative. On physical examination, vital signs were stable, there were many firm, discrete, nontender and mobile lymph nodes in the right and left posterior cervical region, 1×1 cm and 1×2 cm in diameter. There were no lymph nodes in other regions. Buccal mucosa, chest, abdomen and extremities were normal. Otolaryngologist consultaion revealed nodes posterior to the tonsils and vegetative lesions in the nasopharynx.

A biopsy of nasopharyngeal lesions and cervical node was done.

The pathologic report was nasopharyngeal mucosa with granulomatous inflammation and massive necrosis (presence of fungal element in necrotic and viable tissues). The cervical node was totally replaced by granulomatous inflammation and fungal elements. Biopsy specimens examined in 10% KOH on a microscopic slide, demonstrated short, irregular and septate hyphae with dark pigmentation, sugestive of dematiaceous fungi. Direct examination was confirmed by culture on Sabouraud's glucose agar containing cyclo - heximide and kept at 25-30°C. Culture was positive for Phialophora verrucosa (Figs. 1,2).

Fig. 1. Phialophora verrucosa, olive-gray colony.

Laboratory examinations revealed white blood cells 8800/mm^3 with 43% neutrophils, 33% lymphocytes, 20% eosinophils, 3% monocytes and 1% basophil, hemoglobin 13.6 gr/dl, hematocrite 42.9%. Blood sugar, blood urea and urinalysis were normal and tuberculin test was positive. Chest X-Ray and abdominal sonography were

Fig. 2. Phialophora verrucosa, series of phialides like flowers in a vase.

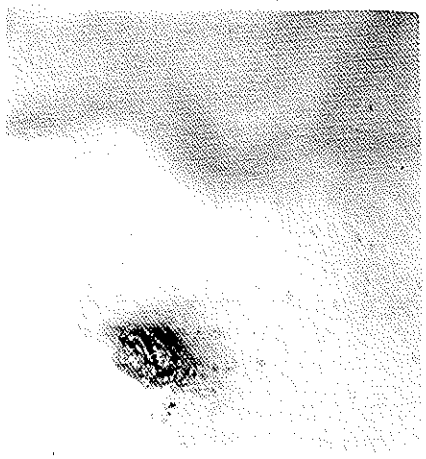

Fig. 3. Nodulary ulcerative lesion on the anterior of the chest wall.

normal. Therapy with itraconazole capsule 200 mg q12h was initiated and the patient was discharged.

The patient was visited every 2 weeks, 4 weeks after treatment nasal speech and obstruction improved and examination revealed normal nasopharynx with no lesions on the posterior portion of his tonsils. Cervical nodes were smaller

by the third month of treatment. Itraconazole was continued for 4 months. White blood cells were 7600/mm^3 with 70% neutrophils and 30% lymphocytes.

After 8 months, the patients returned with a new ulcerative lesion on the anterior of his chest (Fig. 3). The direct examination from scraping of the lesion showed dematiaceous branching hyphae but culture was negative. Treatment with itraconazole capsule 200 mg every 12 hours was continued.

DISCUSSION

Phaeohyphomycosis has been encountered in every continent and in all climates but normally occur in patients living in tropical and subtropical regions (1,3). Our patient has lived in Amol which is warm and humid. He has multiple subcutaneous nodes and nasopharyngeal lesions. Subcutaneous nodes didn't ulcerate. Over 60 cases of subcutaneous cysts have been reported in the world literature occuring in individuals who were not immunocompromised. Our patient hadn't any history of infectious disease and was well nourished. Tuberculin test was positive, probably due to prior BCG vaccination. The histopathology of the lymph node and nasopharyngeal lesion of our patient was compatible with phaeohyphomycosis. Pigmentation of the fungi was gray and culture of the specimen was Phialophora verrucosa. The genus Phialophora is characterized by a single mode of asexual reproduction, namely, flask-shaped phialides with very distinct dark coloured collarettes with flaring margins. In the species P. verrucosa the phialides are short (10 - 20 M), produced along the hyphae or on the lateral branches. The dark cup-shaped collarette is very distinct the small, sub-globose (2-4×3-5 M) hyaline conidia are produced in mucous balls adhering to the opening of the phialides (8). As our patient's lesions were in cervical and nasopharyngeal regions, we decided to try itraconazole capsule 200 mg every 12 hours. Itraconazole, an oral triazole, is the most recently approved systemic treatment of fungal infection. Its bioavailability is significantly enhanced by food and it is recommended that drug be taken with meals (9). Itraconazole is generally well tolerated in doses of 200-400 mg/day and toxicity is reported at doses of 600 mg/day or higher. Itraconazole is an expensive agent (9). Our patient tolerated itraconazole very well, with no evidence of toxicity. After 4 weeks, nasopharyngeal lesions disappeared and cervical nodes became small. Itraconazole was discontinued after 4 months, because it was not available. Recurrence of the lesions after premature cassation of treatment underscores the importance of prolonged (6 - 9 months) treatment in eradication of fungal elements. Itraconazole must be given for a long time to eradicate the fungal element (6 - 9 months).

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