Phaeohyphomycosis of the Foot – A Case Report

Western Reserve Health Education

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Abstract

Phaeohyphomycosis is an opportunistic fungal infection characterized by melanin pigment within the hyphae of its infecting organisms. It was originally described by Afzelius in 1974 as a “condition of dark hyphal fungus”. There are 3 types of phaeohyphomycosis: melanized containing, fungal infections: eumycetoma (madura foot), chromoblastomycosis and phaeohyphomycosis. The differences between these infections are characterized by the tissue samples (2, 3, 4).

Discussion

An 80 year old African American male presented to the office with a chief complaint of a tender soft tissue mass on top of his right foot (Figures 1-2). He relates an insidious onset and does not recall specific blunt or puncture trauma, but he does often bump his foot secondary to gut and balance issues. He states the mass had been present for several months, but recently has become more inflamed, tender and was now draining. The patient subsequently went to see his primary care physician who placed him on oral Keflex secondary to associated cellulitis. His primary care physician also recommended podiatric evaluation at that time. The patient was referred to our clinic and seen approximately 2 weeks later.

His medical/surgical history revealed prostate cancer status post excision of his prostate gland, hypertension and a history of a CVA. No frank immunodeficiency was identified. Upon evaluation there was a 4 x 3 cm firm, nodular mass noted to the dorsum-medial 1st metatarsal area. Modest tenderness was noted with palpation. There was a small unencrusted area noted medially consistent with his history of a draining lesion. Radiographic evaluation revealed focal increased soft tissue thickness and density suggestive of non-ossous mass effect. There was no focussed peristomal reaction or suggestion of erosion. The office ultrasound revealed a slightly hypochogenic mass with heterogeneous appearance deep and a more homogenous effect superficially, measuring approximately 2.94 x 2.29 cm.

An MRI was ordered, which revealed a 3.3 x 2.3 x 1 cm conspicuous circumscribed lobular mass adjacent to the 1st metatarsal shaft between the cortex and the overlying skin. The lesion demonstrated intermediate internal T1 signal that was isointense with skeletal muscle and High PD/T2 signal with peripheral outer enhancement. Ganglion, myxoma, and giant cell tumor were suggested but sarcoma could not be ruled out because the peripheral enhancement was more irregular than typically seen with a ganglion.

On follow up evaluation the MRI results were reviewed and a needle biopsy was performed. The caseous contents were extracted and submitted for pathologic identification and for culture and sensitivity. During tissue manipulation purulent contents were extruded from the medial excised area. Pathological evaluation (Figure 3) of the aspirate revealed a diagnosis of Phaeohyphomycosis and the culture of the contents was negative for bacteria. Surgical excision was recommended. After cardiac clearance the patient was taken for excision of the lesion (Figure 4). Following excision the patient was placed on 50 mg fluconazole PO daily for a total of 10 days. The sutures were removed 17 days following excision. There was a small granular area of superficial desquamation noted along the central portion of the incision, so wound care was continued until this area was dry. There was no evidence of residual mass effect or tenderness. He was released to resume normal shoe wear and increase ambulation as tolerated. He was seen 2 weeks later and released to follow up as needed.

Conclusion

Phaeohyphomycosis differs from eumycetoma and chromoblastomycosis in that its tissue samples contain phaeo spore septate hyphae, pseudohyphae, yeast or a combination thereof (9). Phaeohyphomycosis can also be classified relative to its location of infection: superficial (epidermal), cutaneous/orbital, subcutaneous or systemic (10, 11). Various infecting organisms can present in these locations, ranging from Phaeosporus Horae (superficial) to W答疑ella dermatitidis (systemic) (2). The most common cause of cutaneous infection is trauma, secondary to inoculation by a splinter or thorn (12).

Conclusion (cont’d)

Treatment for phaeohyphomycosis includes antifungal therapy and complete surgical excision. Current recommendations for antifungal therapy are based on previous case reports and experimental studies, with voriconazole, itraconazole, terbinafine, amphotericin B and itraconazole all being used with some success (12, 13, 14). It is especially imperative to start antifungal therapy for those patients experiencing recurrent cases or those who are immunocompromised (2, 15). For immunocompromised individuals, antifungal treatment should be at least 6 months in duration (14). Combination therapy of these medications can also be performed, but the clinician should be wary of possible side effects of these drugs such as liver and kidney damage. Fluconazole 200mg QD is an acceptable initial regimen, titrated accordingly based on the severity of the infection. However, surgical excision should be performed concomitantly if at all possible.

References

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