



Chromomycosis: A Rare Cutaneous Fungal Infection on the Upper Extremity Frequently Mistaken for Squamous Cell Carcinoma

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Background

Chromomycosis is an uncommon subcutaneous fungal infection of the skin caused by a variety of dematiaceous fungal species. It is contracted following direct inoculation of the fungus into the skin and most commonly occurs in tropical regions, particularly among rural workers with occupational exposures to contaminated soil or decaying plants. The most common presentation is a verrucous papule or nodule on an extremity, thus it is often clinically suspected to represent squamous cell carcinoma. Additionally, histopathology frequently shows pseudoepitheliomatous hyperplasia, which also can mimic squamous cell carcinoma.

Purpose

Identify patients treated at our facility with chromomycosis, and review the clinical and histopathologic characteristics of this disease.

Methods

A pathology record search was performed from January 2004 to May 2013 at our institution using search terms, 'chromomycosis' and 'chromoblastomycosis'. Medical records were then reviewed to examine the clinical presentation and management of these patients.

Results

| Patient # | Age | Sex | Immunosuppressed due to history of solid organ transplantation | Clinical diagnosis prior to biopsy | Location of lesion | Culture results | Treatment | Follow up duration/outcome |
|-----------|-----|-----|--|------------------------------------|--------------------|---------------------------|---|----------------------------|
| 1 | 67 | M | Y | Squamous cell carcinoma | Forearm | Negative | Itraconazole 200mg PO BID | Lost to followup |
| 2 | 66 | F | Y | None given | Lower leg | Not done | Excision | 16 years, no recurrence |
| 3 | 33 | M | Y | Squamous cell carcinoma | Elbow | <i>Wangiella</i> species | Excision plus itraconazole 200mg PO daily x 18mo. | 2 years, no recurrence |
| 4 | 69 | M | Y | Squamous cell carcinoma | Hand | <i>Alternaria</i> species | Excision plus itraconazole 200mg PO daily x 3mo. | 2 years, no recurrence |
| 5 | 90 | M | N | Squamous cell carcinoma | Forearm | <i>Exophiala</i> species | Excision | 4 years, no recurrence |
| 6 | 62 | M | Y | Basal cell carcinoma | Distal arm | Negative | Excision | 3 years, no recurrence |
| 7 | 71 | M | Y | Squamous cell carcinoma | Knee | Negative | Terbinafine 250mg PO daily | Therapy ongoing |

7 cases were identified at a single institution over a 10 year period. 5 of 7 cases (71.43%) occurred on the upper extremity. 5 of 7 patients (71.43%) had a history of solid organ transplantation and thus were on immunosuppressive medications. 6 of 7 patients (85.71%) were male. 5 of 7 cases (71.43%) were suspected to represent squamous cell carcinoma prior to biopsy. All 7 specimens revealed histopathology consistent with chromomycosis, including pseudoepitheliomatous hyperplasia with granulomatous and suppurative inflammation surrounding the diagnostic pigmented sclerotic bodies. 3 cases (42.86%) had negative fungal cultures. 3 patients had fungal cultures positive for dematiaceous fungi: 1 each of *Exophiala* species, *Wangiella* species, and *Alternaria* species. 5 of 7 patients (71.43%) were treated with surgical excision. 2 of these patients received supplemental oral itraconazole. 1 patient was treated with oral itraconazole as monotherapy. 1 patient was recently diagnosed and started on monotherapy with oral terbinafine.

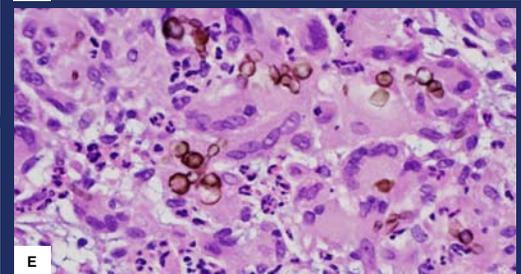
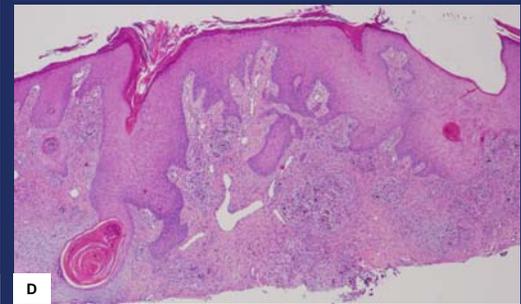
Conclusion

Chromomycosis presents as verrucous papules or nodules and may clinically and histopathologically mimic squamous cell carcinoma. In our series, chromomycosis had a predilection for the upper extremity and tended to occur in male patients. Immunosuppression may play a role in pathogenesis. In most cases surgical excision is curative, however oral antifungal therapy may have a benefit as well, particularly to prevent dissemination in immunosuppressed patients.



Hyperkeratotic papules suspected to represent squamous cell carcinoma ultimately demonstrated findings consistent with chromomycosis on biopsy.

- (A) Patient 1, left forearm, numerous hyperkeratotic papules can be seen.
- (B) Patient 1, left forearm, close-up.
- (C) Patient 7, left knee.



(D) Histopathology displays pseudoepitheliomatous hyperplasia, which can resemble squamous cell carcinoma (hematoxylin and eosin, 4X). (E) Granulomatous and suppurative inflammation surrounding the diagnostic pigmented fungal bodies is characteristic for chromomycosis (hematoxylin and eosin, 40X)