

## A Case of *Fonsecaea monophora* Infection

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A 65-year-old male patient presented with a walnut-sized, scaly erythematous plaque on the left forearm for 1 year (Fig. 1A). He had been taking antihypertensive agents. He was diagnosed with chromoblastomycosis caused by *Fonsecaea monophora* by using biopsy, KOH preparation, fungal culture, lactophenol cotton blue staining, and DNA gene sequencing. Histopathology showed brownish sclerotic bodies and a mixed inflammatory and granulomatous infiltrate in the dermis (Fig. 1B). KOH preparation showed brown sclerotic bodies (Fig. 2A). Fungal culture showed dark black, velvety colonies (Fig. 2B). Long, septate hyphae with numerous conidia were observed on lactophenol cotton blue staining. Sequencing analysis of the internal transcribed spacer (ITS) region of ribosomal DNA (rDNA) using Gapped Basic Local Alignment Search Tool (BLAST) and Position-Specific Iterated (PSI)-BLAST in GenBank identified *F. monophora*. Gene sequencing revealed 100% homology with accession number AB091204. The chromoblastomycosis was controlled by taking oral antifungal medication (itraconazole 100 mg twice a day for 2

months).

Deep mycosis caused by dematiaceous fungi is roughly subdivided into three types: chromoblastomycosis, black-grain mycetoma, and phaeohyphomycosis. *F. pedrosoi*, which is a major dematiaceous fungus, accounts for 90% of chromoblastomycosis. *Fonsecaea* has been reclassified using rDNA ITS sequence analysis: *F. pedrosoi*, *F. monophora*, and others<sup>1</sup>. Our case had chromomycosis caused by *F. monophora* that had developed on the left forearm. *F. monophora* could not be identified through morphological examination, but was confirmed using rDNA ITS sequence analysis. Occasionally, sclerotic cells on KOH preparation and histopathological examination can be helpful in making a diagnosis of chromoblastomycosis caused by *F. monophora*<sup>2</sup>. Chromoblastomycosis can be successfully treated with physical modalities, chemotherapy, and/or combination therapy<sup>3</sup>. In Korea, 4 cases of *F. monophora* chromoblastomycosis have been reported. Kim et al.<sup>4</sup> reported a case in 2014, and the others were reclassified phylogenetically as *F. monophora* by Lim et al.<sup>5</sup> in 2010. Nevertheless, chromoblasto-

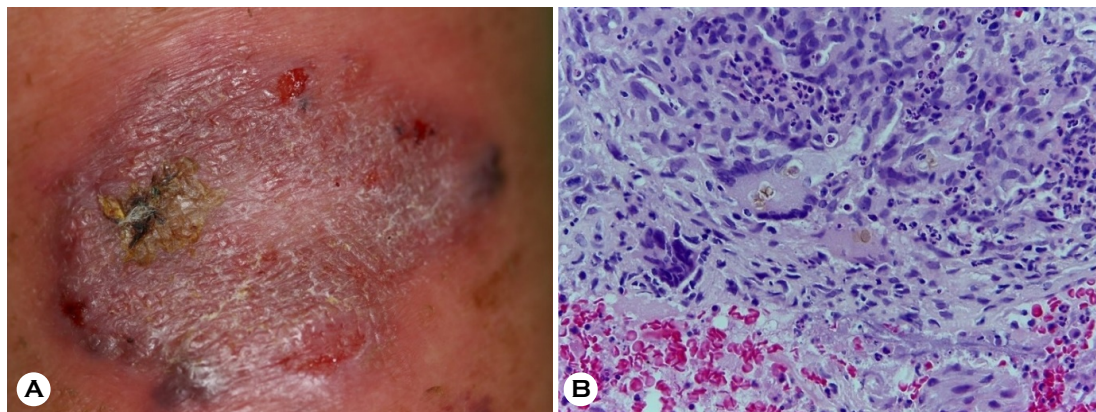
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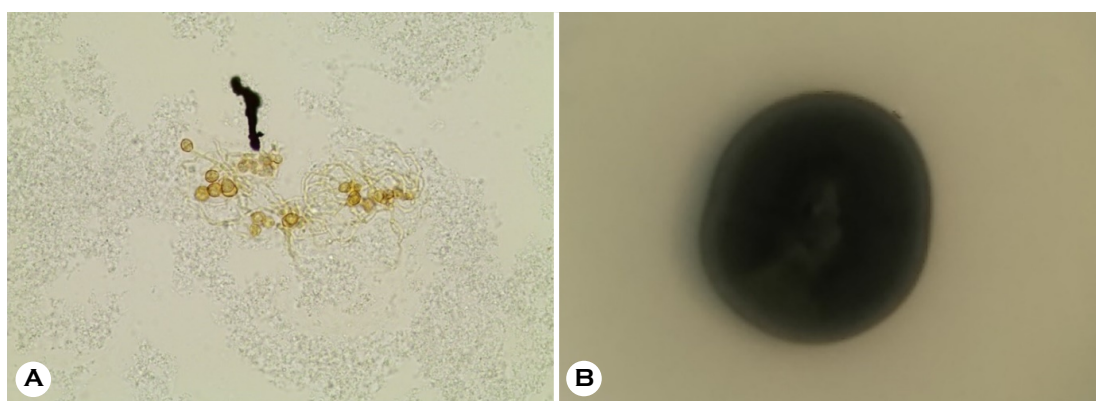
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**Fig. 1.** (A) A walnut-sized, scaly erythematous plaque on the left forearm (B) Mixed inflammatory infiltrate with dark-brown sclerotic cells within giant cells (H&E,  $\times 400$ )



**Fig. 2.** (A) Brown sclerotic bodies and hyphae on KOH preparation (B) Dark black, velvety colony on fungal culture

mycosis caused by *F. monophora* is very rare in Korea. We describe a case of *F. monophora* chromoblastomycosis identified with gene sequencing analysis.

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**Key Words:** Chromoblastomycosis, Dermatophyte, Dermatophytosis, *Fonsecaea*, *Fonsecaea monophora*

#### **Conflict of interest**

In relation to this article, I declare that there is no conflict of interest.

#### **REFERENCES**

1. De Hoog GS, Attili-Angelis D, Vicente VA, Van Den Ende AH, Queiroz-Telles F. Molecular ecology and pathogenic potential of *Fonsecaea* species. Med Mycol 2004;42:405-416

2. Queiroz-Telles F, Esterre P, Perez-Blanco M, Vitale RG, Salgado CG, Bonifaz A. Chromoblastomycosis: an overview of clinical manifestations, diagnosis and treatment. *Med Mycol* 2009;47:3-15
  3. Lu S, Lu C, Zhang J, Hu Y, Li X, Xi L. Chromoblastomycosis in Mainland China: a systematic review on clinical characteristics. *Mycopathologia* 2013;175:489-495
  4. Kim BS, Choi JH, Sohng SH, Shin DH, Choi JS, Suh MK. Chromoblastomycosis caused by *Fonsecaea monophora*. *Korean J Med Mycol* 2014;19:18-24
  5. Lim SW, Suh MK, Kang GS, Ha GY, Kim H, Choi JS, et al. Molecular phylogenetics of *Fonsecaea* strains isolated from chromoblastomycosis patients in South Korea. *Mycoses* 2010;54:415-420
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