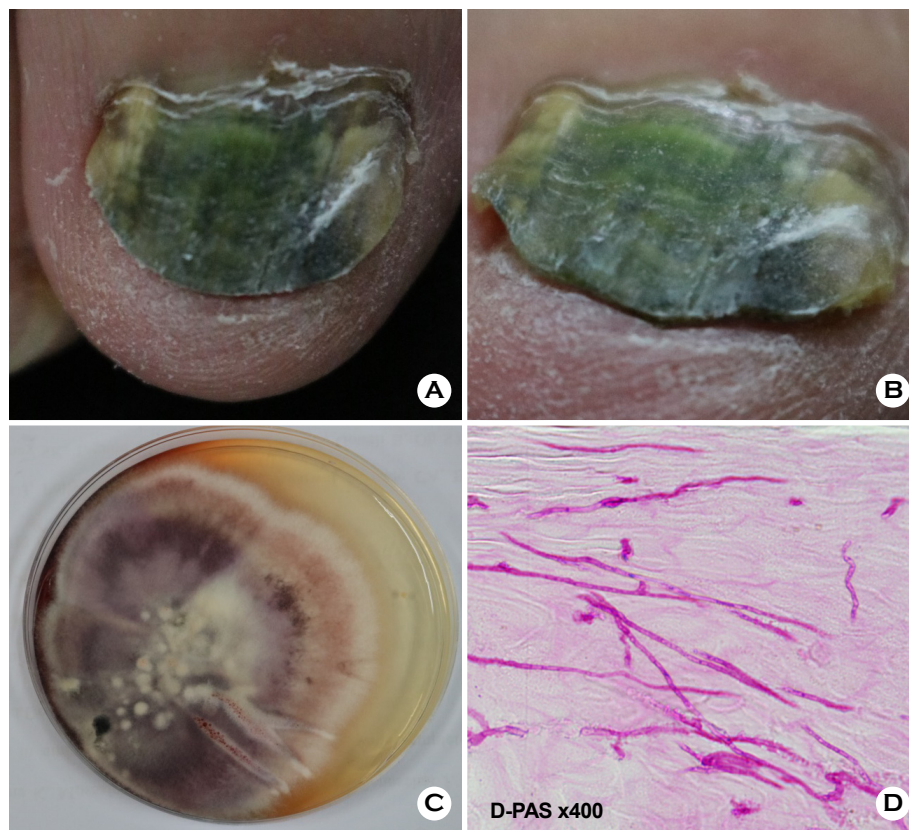


## Gross Image of Green Nail Syndrome Co-infected with *Trichophyton rubrum*

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**Fig. 1.** **A:** Green coloration of the toe nail with onychodystrophy is observed **B:** Medial side of toe nail shows onychodystrophy with subungual hyperkeratosis. **C:** Powdery textured and white to wine red colored colonies are seen on Sabouraud's dextrose agar after 5 days on 25°C **D:** Numerous hyphae are seen in nail plate staining with periodic acid-schiff with diastase predigestion (D-PAS stain ×400)

Received: August 7, 2017, Revised: September 5, 2017, Accepted: September 8, 2017

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Green nail syndrome (GNS) is characterized by greenish chromonychia caused by pyocyanin, a metabolite produced by *Pseudomonas aeruginosa* (*P. aeruginosa*)<sup>1</sup>. Predisposing factors of pseudomonas colonization include onychomycoses, nail dystrophies, working in wet conditions, diabetes mellitus, paronychia and immunosuppressive states<sup>2</sup>. A number of reports states that there are strong relationship between fungal and *P. aeruginosa* infection of the nail<sup>3,4</sup>. Fungal infection stimulates bacterial colonization within the nail and overgrowth of *P. aeruginosa*<sup>4</sup>.

Greenish-black discoloration in central area of the nail is observed, which is a key characteristic of GNS. Also, visible dystrophy with thickened plates and fissures is observed (Fig. 1A). On the medial side of the nail body, subungual hyperkeratosis and yellowish discoloration are observed. (Fig. 1B) While discoloration of the nail is a distinguishing feature of *P. aeruginosa* infection, nail dystrophies with subungual hyperkeratosis can be seen in both *P. aeruginosa* and fungal infection. In this case, *P. aeruginosa* and *Trichophyton rubrum* (*T. rubrum*) infection were confirmed through culture. On Sabouraud glucose agar, colonies with powdery texture and white-to-red color were observed, which are key characteristics of *T. rubrum* (Fig. 1C). Also, through staining with periodic Acid-Schiff with

diastase predigestion (D-PAS), numerous fungal organisms including hyphae were observed (Fig. 1D). Approach to GNS, which is mainly caused by *P. aeruginosa*, should also include identifying signs of onychomycosis and proper examinations to detect fungal infections.

[**Korean J Med Mycol 2017; 22(3): 146-147**]

**Key Words:** Chromonychia, Green nail syndrome, *Pseudomonas aeruginosa*

#### **Conflict of interest**

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

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