# A review of the clinical features of Green nail syndrome patients: A Single-Institution Experience

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# Background

- **Green nail syndrome (GNS)**

  - Nail color turns green due to a pigment called pyocyanin produced by Pseudomonas aeruginosa.

- **Affect  patient's Quality of life (QOL)**

- Cosmetic problems

- Restricting work in certain facilities

- Restricting contact with immunocompromised persons, due to the possibility of spreading Pseudomonas aeruginosa

# Background

- **Predisposing factor of GNS**
  - Trauma
  - Other nail disease (Psoriasis, Onycholysis, etc.)
  - Humid condition

- **Treatment**
  - Trimming and guttering
  - Antibiotics: Oral or Topical

# Objective

- In real-world clinical practice, the pain and potential for nail deformity make nail removal a burden, and it is not uncommon to see cases that are resistant to treatment.

- By analyzing the clinical characteristics of GNS patients, we intend to help in the treatment and prevention of future patients.

# **Methods**_Study subjects

- This single center retrospective study included 34 GNS patients with clinical photo who visited the Dermatology Department of Sanggye Paik Hospital from 2009 to 2021.

- Collected data
  - Gender
  - Underlying disease
  - Location of affected nail
  - Number of affected nail
  - Type of cultured bacteria
  - Type of cultured fungus

# Results _ Characteristics of study population

| Characteristic | Value |
|---|---|
| Number of patients | 34 (100) |
| Sex (%) | |
| M | 11 (32.4) |
| F | 23 (67.6) |
| Other nail disease (%) | 6 (17.6) |
| Onychomycosis | 5 |
| Onychodystrophy | 1 |

# Results _Risk factor

- In 7 (36.8%) of 19 patients who stated the time of symptom onset, lesions occurred in the summer.

- Risk factors such as moist environment and trauma were identified in 8(23.5%) patients.

# Results _Location, Number

- The right thumb nail (32.4%) was affected overwhelmingly.
  - followed by the right great toenail (23.5%) and the left great toenail (20.6%).

- 27 patients (79.4%) had a single lesion, 6 patients (17.6%) had two lesions, and 1 patient (2.9%) had four lesions.

# Results _Culture

- P. aeruginosa was detected on 23 patients(67.6%).

- Fungal co-infection was found on 10 patients(29.4%).

# Discussion

- Consistent with previous domestic report (Single center retrospective study with 78 patients)
  - Female predominance
  - Involvement of thumb nail or great toe nail  was common
- Tailored therapy (Sensitive antibiotics, antifungal agents) based on culture result might be needed for some patients.
- Limitation
  - Small sample size

# Conclusion

- The results of this study will be helpful for GNS patient care and education

- It will be more helpful if the factors that affect treatment response are confirmed through additional research.
  - Multi-center, large-scale
  - Sub group analysis
  - Treatment response comparison

# References


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