Exploring Long COVID in Taiwanese Children: Immunological Insights and Clinical Impacts

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Background

- Long COVID refers to persistent symptoms lasting more than six months after acute SARS-CoV-2 infection.
- It affects 10–30% of survivors globally, with prevalence varying by age and demographics.
- Most current data are from Western adults; Asian children are underrepresented.

Objectives

To analyze epidemiology, clinical manifestations, and immune features of long COVID in Taiwanese children and adolescents aged 5–18.

Methods

- Study period: January 2022 – December 2023 (Taipei)
- Participants: 395 children/adolescents (PCR-confirmed COVID-19)
  - Long COVID group: 256 (persistent symptoms over 6 months)
  - Control group: 139 (no lingering symptoms)

Key Results

- Mean age: 8.18 years
- Mean BMI: 19.59
- Prevalence of medical history:
  - Allergic rhinitis: 69.9%
  - Asthma: 47.6%
  - Migraine: 4.9%
- Post-COVID complications:
  - Allergic rhinitis: 33.2%
  - Acute sinusitis: 5.1%
  - Atopic dermatitis: 17.2%

Immunological Insights

- Long COVID is strongly associated with immune dysregulation.
- Findings include elevated pro-inflammatory cytokines and altered T-cell activity.
- Unique immune-allergic profiles were found in Taiwanese children, highlighting population-specific mechanisms.

Conclusions

- Taiwanese children with long COVID show distinct allergic and immune features.
- These insights support developing targeted care strategies for Asian pediatric populations.