

# Yellow Nail Syndrome

Yellow Nail Syndrome (YNS) is a rare disorder characterized by a triad of symptoms: yellow nails, lymphedema, and respiratory tract involvement. The most common respiratory issue is pleural effusion. While the syndrome is often recognized by these three hallmark features, not all patients present with the full triad. The involvement of nails is only observed in about 10% of patients. The clinical manifestations can be variable, and the underlying pathophysiology remains incompletely understood.

## Triad of Symptoms

### 1. Nail Changes

- **Nail Appearance:** The hallmark feature of YNS is the yellowing of the nails, which may affect all nails, though some patients may show asymmetry. The nails tend to grow slowly or may appear to stop growing altogether, with a pale yellow or greenish-yellow color and darkened edges.
- **Nail Texture:** The nails may remain smooth, but some patients exhibit cross-ridging and increased curvature, with humped nails and loss of cuticles.
- **Onycholysis:** A characteristic finding is the separation of the nail from the nail bed, which typically starts at the tip and extends towards the base of the nail, potentially leading to nail shedding.

### 2. Lymphedema

- **Swelling:** Lymphedema is present in approximately 80% of patients and typically affects the lower extremities. This swelling is generally symmetric and non-pitting, often appearing after the development of nail changes, although in some cases, the swelling may be delayed by several months.
- **Affected Areas:** While the lower extremities are the most commonly affected, swelling can also extend to the hands, face, or genital areas, although this is less frequent.

### 3. Respiratory Tract Involvement

- **Pleural Effusions:** Around 36% of YNS patients experience pleural effusions, with 30% having them as an initial symptom. These effusions are generally bilateral and can cause chest discomfort and difficulty breathing.

- **Other Respiratory Issues:** YNS is also associated with recurrent respiratory issues such as chronic sinusitis, recurrent bronchitis, pneumonia, and bronchiectasis. These chronic respiratory complications often lead to long-term management needs.

## Clinical Features

- **Nail Features:** The nails are thickened, yellow, and exhibit increased longitudinal and transverse curvature. The lunula, a white crescent at the base of the nail, may become invisible. The nail fold may also be red and inflamed, and onycholysis is a common feature.
- **Dermoscopy:** Dermoscopic examination often reveals dilated and tortuous capillary loops in the nail fold, which can aid in the diagnosis.

## Pathophysiology

The exact pathophysiology of Yellow Nail Syndrome remains unclear. A few potential mechanisms have been proposed, including microangiopathy and, more recently, titanium exposure. However, conclusive evidence to support these theories is limited. Some studies suggest that the syndrome may result from a systemic microvascular disorder that affects the lymphatic system, leading to both lymphedema and the characteristic nail changes. The association with respiratory tract problems also suggests a possible underlying vascular or immune-mediated mechanism.

## Diagnosis

The diagnosis of Yellow Nail Syndrome is based on the clinical presence of the characteristic triad of symptoms. In cases where the full triad is not observed, the diagnosis may still be considered if two of the three symptoms (yellow nails, lymphedema, and respiratory involvement) are present. Dermoscopy findings, such as dilated and tortuous capillary loops in the nail fold, further support the diagnosis. Additional tests may be performed to rule out other conditions with overlapping symptoms.

## Treatment

- **Nail Treatment:** While the nail changes associated with YNS are usually permanent, treatment can help improve nail growth and appearance. Topical vitamin E solutions have been used to stimulate nail growth. Additionally, antifungal agents such as itraconazole and fluconazole may be used despite the lack of fungal etiology in YNS. These antifungal agents have shown potential benefits in stimulating nail growth.
- **Respiratory Management:** The treatment of respiratory symptoms typically involves management of pleural effusions and other respiratory complications. Patients with chronic bronchitis or pneumonia may require bronchodilators, antibiotics, or other pulmonary therapies. Pleurodesis may be indicated in patients with recurrent pleural effusions.

- **Lymphedema Management:** Lymphedema is managed with compression therapy, manual lymphatic drainage, and elevation of affected limbs. These interventions can help alleviate swelling and improve the quality of life for affected individuals.

## Prognosis

The prognosis for individuals with YNS is variable and depends on the severity of the symptoms. While the nail changes are typically permanent, management of respiratory symptoms and lymphedema can improve the patient's quality of life. Respiratory issues, such as pleural effusions and chronic bronchitis, can lead to significant morbidity, while lymphedema, if not properly managed, can lead to complications such as cellulitis and fibrosis. The overall prognosis depends on the response to treatment and the severity of the associated complications.

## Conclusion

Yellow Nail Syndrome is a rare but distinct clinical entity characterized by a triad of symptoms: yellow nails, lymphedema, and respiratory tract involvement. Although the exact cause of the syndrome remains unknown, various management strategies are available to address the symptoms and improve quality of life. As more research is conducted into the pathophysiology and treatment options for YNS, further advancements in patient care are expected. Early recognition and treatment of the symptoms can help mitigate the impact of this syndrome on affected individuals.

## References

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