

## Yellow nail syndrome: a case report

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### Abstract

**Background and objective:** Yellow nail syndrome is a rare clinical syndrome. Given the low number of known cases (approx. 200 cases described) and unclear disease etiology, no accepted standards of treatment exist.

**Case report:** A 65 years old man presented to Rizgary Teaching Hospital consultation department of internal medicine with shortness of breath, swelling of both upper and lower limbs and nail changes.

**Keywords:** Yellow nail syndrome, lymphedema.

### Introduction

Yellow nail syndrome is an uncommon clinical syndrome characterized by yellow-green discoloration of nails, the presence of respiratory tract lesions, and lymphedema<sup>1,2</sup>. In 1964 Samman and White for the first time described 13 patients with coexistent leg oedema and yellow nails<sup>2-5</sup>. Further publications described other components of this syndrome, concerning the respiratory tract, which include pleural effusion and recurrent upper and lower respiratory tract infection<sup>1,2</sup>. The aetiology of YNS remains unclear. Developmental or functional abnormalities of the lymphatic system were suggested, possibly manifesting in the course of chronic inflammation<sup>2,6</sup>. Nail features<sup>1,4</sup>: Typically, the nails are slow-growing may be accompanied by colour changes (pale brown, ochre, yellow or green), onycholysis, ridging, thickening, overcurvature and absence of the lunula<sup>7</sup>. Lymphedema: The lymphedema can be widespread, including peripheral oedema (usually lower limb), pleural effusion and ascites<sup>4</sup>. Facial and laryngeal oedema has also been reported<sup>5</sup>. Respiratory disorders<sup>4,8</sup>: Various respiratory conditions may occur: Pleural effusion, which may be recurrent or massive, bronchiecta-

sis, recurrent pneumonia<sup>1</sup>, chronic bronchitis<sup>9</sup> and bronchial hyper-responsiveness.

### Case presentation

A 65 years old Kurdish male from Erbil presented with shortness of breath with exertion and orthopnea for three weeks duration associated with cough and sputum without any fever, he noticed that his legs has been swollen. He was known to be hypertensive, he used to smoke for 25 years and he quit smoking before eight years. He mentions another time admission few years ago for same condition. Physical examination revealed swelling of dorsum aspect of hands, bilateral gross non pitting leg swelling, plethoric swollen face, yellow-brown dystrophied nails with onycholysis of some of them, Figures 1&2. JVP was raised 12cm; there was bilateral basal lung crepitation with diffuse low pitch ronchi and with no precordial findings.

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Figure 1: Thickened, dystrophied yellow-colored nails in a patient with yellow nail syndrome



Figure 2: Bilateral lymphedema

Investigations: CXR showed bilateral basal haziness, chest CT no further finding was detected, ECG was normal, Echo finding was septal hypokinesia, dilated left ventricle and atrium with mild pulmonary hypertension, Doppler study for the lower limbs revealed lymphatic channel dilatation consistent with lymphedema and there was no evidence of deep venous thrombosis. Liver function test, thyroid function test, renal function test, urine for protein and total serum protein all were normal. Complete blood picture and ESR was normal, ultrasound for abdomen was normal, para-nasal sinus X-ray showed bilateral maxillary sinusitis.

### Discussion

Yellow nail syndrome mainly affects middle-aged persons, but some cases were described in children or the elderly<sup>7,8</sup>.

The disease is seen more commonly in women, with a female/male ratio of 1.6:1<sup>1,8</sup>. Its aetiology is unknown. Developmental or functional anomalies of the lymphatic system were suggested<sup>10,11,12</sup>. Diagnosis is made based on clinical findings, and at least two of the three classical symptoms need to be confirmed<sup>2</sup>. The most typical and characteristic feature is yellow-greenish discoloration of the nail plates, with thickening, shrinking, and decreased nail growth rate ( $< 0.25$  mm/week)<sup>1,7,10</sup>. These features can be found in 89% of YNS patients<sup>13</sup> but can spontaneously regress in 7–30% of cases<sup>10</sup>. Lymphedema is present in 80% of patients and concerns mainly the upper and lower limbs; however, oedema of other body parts (e.g. eyelids) can also be present<sup>1,2,11</sup>. Signs of respiratory tract affection are found in 63% of patients<sup>1</sup>. Pleural effusion (most often of exudates) was the first ever described abnormality in YNS, other respiratory symptoms and signs like chronic sinusitis, recurrent respiratory tract infection, and bronchiectases were added to the classical clinical picture of YNS. The presented patient had a classical constellation of YNS symptoms, with yellow discoloration and nail atrophy and onycholysis, recurrent respiratory tract infection, and chronic paranasal sinusitis. Oedemas were prominent, and were observed in the legs, hands and face. Coincidence of YNS with autoimmune diseases, and malignancy of chronic inflammatory diseases, has been pointed out by some reports in literature<sup>9,5</sup>. Descriptions concerning the largest groups of patients suggest that their life expectancy might be only slightly shorter than that of the general population<sup>4</sup>. As the cause of YNS development remains unknown and its incidence is low, no treatment strategy was ever established. Symptomatic treatment was most commonly applied. Nail lesions can be treated with vitamin E, steroid ointment, zinc preparations, or antifungal<sup>2,10,14</sup>.

## Conclusion

Yellow nail syndrome is a rare clinical entity but should be taken into consideration in patients with recurrent pleural effusion, bronchiectases and persistent lymphedema. This syndrome may be a diagnostic challenge since all three symptoms are evident in only a minority of patients.

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