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Case report

Yellow nail syndrome, pincer nails, colon cancer and polyps in a 76 year-old-woman

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Abstract: The yellow nail syndrome is a scarcely described condition characterized by dystrophic yellowish nails, respiratory disturbances and lymphedema; while the pincer nail deformity is characterized by thickening and excessive transverse curvature of the nail plate. The objective of this case study is to report a 76-year-old Japanese descent woman with yellow nail syndrome and pincer nails, intestinal polyps, and sigmoid colon adenocarcinoma. Both the yellow nail syndrome and pincer nails may develop in association with malignancies, either by chance or by some etiopathogenic mechanism not well-known.

Keywords: colon cancer, pincer nails, polyps, yellow nail syndrome

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Introduction

The yellow nail syndrome (YNS) was first described in 1964, and is characterized by the triad of yellowish nail changes, recurrent respiratory or pleural disturbances, and lymphoedema [1-7]. Morphologic and functional changes in lymph vessels can play a role on the pathogenesis [2-6]. Complete triad appears in 30% of cases, and pericardial or ocular disorders may also occur [1-7]. The syndrome may be idiopathic, familiar, or related to acquired immune deficiency syndrome (AIDS), collagen diseases, drug-effect, Guillain-Barré syndrome, hypoalbuminemia, hypogammaglobulinemia, malignancy, nephritic syndrome, thyroid disorders, tuberculosis, and xanthogranulomatous pyelonephritis [1-7]. Lymphoma, melanoma and sarcoma, in addition to breast, endometrium, gallbladder, larynx, lung, ovary, and stomach cancers, have been found in patients with yellow nail syndrome [1-7].

Pincer nails can be found associated with chronic renal failure, phalanx osteophytes, drug effect, ill-fitting shoes, intestinal polyps or cancer, Kawasaki disease, onychomycosis, psoriasis, systemic lupus erythematosus, ungual tumor, and the yellow nail syndrome [2, 4-6, 8-10]. The main features are transverse over curvature in longitudinal axis of the nail plate and nail edges pressing deeply into the lateral nail fold, and a distal curvature that pinches the nail bed.

Case report

A 76-year-old Japanese descent woman came to hospital claiming of hyaline coryza and non-productive cough associated with chills and high fever, during four days. In addition, there was alopecia, asthenia, inappetence, and a marked loss of weight (11 kg in six months). She denied alcoholism and tobacco smoking, and used glucosamine plus calcium supplement. Her menarche was at 16 years, menopause at 50 years, and she had two normal pregnancies. Physical examination showed body mass index (BMI) 20.73 kg/m^2, waist circumference 72 cm, pale mucosae, hard hipogastric mass measuring approximately 7 cm of diameter, mild bilateral lower limb edema, and hand and toenail changes (*Figure* 1).

The rest of examination was unremarkable. The patient said she did not know about some other close relative with similar disturbances. Laboratory abnormal data were hemoglobin 8.7 (11.7-15.7) g/dL, hematocrit 26.4 (35-47) %, leukocytes 17,300 (<10,000) mm^3, albumin 2.73 (3.5-5.4) g/dL, globulins 4.69 (1.8-4.0) g/dL, plasma immunoglobulin G (IgG) 2,760 (700-1,600) mg/dL, C-reactive protein 8.1 (<0.5) mg/dL, iron 11 (60-160) mcg/dL, transferrin total iron-binding capacity (TIBC) 152.5 (250-460) mcg/dL, transferrin saturation 7 (15-50) %, CA 19.9 119.4 (<34) IU/mL, cancer antigen 125 (CA 125) 101.1 (<35) IU/mL, carcinoembryonic antigen (CEA) 133.7 (<5.0) ng/mL, and positive fecal occult blood test. Chest X-ray showed and moderate left pleural effusion, and computed tomography (CT) images of abdomen and pelvis revealed heterogeneous pelvic mass (14.5x11x9 cm) with density of soft tissues, and permeated by gas (*Figure* 2). Contrasted enhanced images did not show cleavage planes with the adjacent sigmoid, and there was involvement of the surrounding fat tissues. The voluminous mass also exerted compressive effect over the urinary bladder, and involved the isthmus and body of the uterus. Less remarkable additional findings were

osteoporosis and degenerative changes in dorsolumbar spine. There was neither hepatic nor bone or lymph node implants of the tumor. Upper digestive endoscopy showed a polyp on duodenal bulb, with approximately 10 mm; and colonoscopy showed an exophitic tumor with partial obstruction of distal sigmoid colon, in addition to a rectal sessile polyp measuring 7 mm (*Figure* 3). The histopathologic diagnoses were moderately differentiated adenocarcinoma of sigmoid colon with angiolymphatic invasion, and tubular adenoma of the rectum, with low grade dysplasia. Clinical management included three courses of intravenous iron replacement every two days, propitiating significant improvement, and the patient was referred to Surgical Oncology care.

Discussion

Colon cancer is a very frequent solid tumor, and ranks in the fourth site of mortality [9]. The elderly woman herein described had a colon adenocarcinoma and polyps located in duodenal bulb and rectum, coexistent with the complete triad of the yellow nail syndrome [1-6]. Her local advanced tumor evolved unsuspected, and could not be early detected because the patient did not underwent the gold standard screening routine for detection of colon cancers [9]. During the current admission, the levels of CEA, cancer antigen 19-9 (CA19-9) and CA 125 were found elevated. The first two of these tumor markers have been useful tools for diagnostic purposes as well as for preoperative staging, and postoperative follow-up of people under chemotherapy [9]. The higher levels of CEA and CA19-9 are more often detected in patients aged 75 years; moreover, metastases are present in the vast majority of individuals with the elevated values [9]. Despite of tumor markers in high levels, implants were not found in our 76-year-old patient.

In the present case study intestinal polyposis and colon cancer coexisted with alopecia, hyperpigmentation and yellow nail syndrome, phenomenon that may be casual or causal [1]. Intestinal and epidermal changes as alopecia and nail disorders (atrophy, thinning, splitting, and onycholysis) and lower limb edema may be features of Cronkhite-Canada syndrome [10]. This non-familial entity includes the triad - alopecia, hyperpigmentation and nail distrophy [10]. Moreover, alopecia and pincer nails would be markers of gastrointestinal malignancy, as Jemec and Thomsen hypothesized in an adenocarcinoma of sigmoid colon with metastases [8]. Therefore, this possibility might pose another challenging diagnostic concern in this setting.

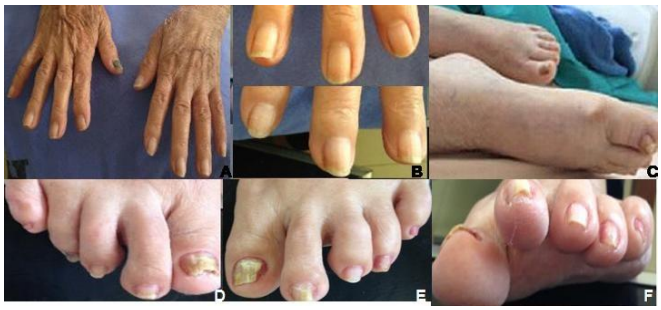

Figure 1. A and B: cutaneous hyperpigmentation on the dorsum of hands, and absence of lunula, yellowish discoloration, and variable overcurvature in many nail plates (pincer nails); C to E: mild lower limb edema, absence of lunula, yellowish discoloration and pincer nails in the majority of toes, in addition to onychodystrophy which affected both great toes; and F: close-up view of yellow-brownish chromonychia solely observed in the first right finger nail.

Conclusion

Worthy of note, both YNS and pincer nails may develop in association with malignancies, either by chance or by eventual currently unknown etiopathogenic relationship. Therefore, concurrent nail changes with colon adenocarcinoma would merit further research.

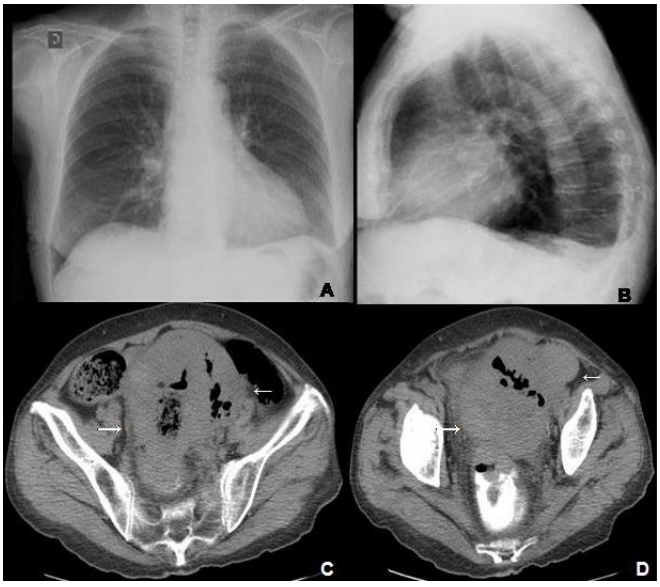

Figure 2. A and B (Chest X-ray): moderate left pleural effusion; C and D (CT of abdomen and pelvis): voluminous pelvic mass with density of soft tissues, permeated by gas (arrows).

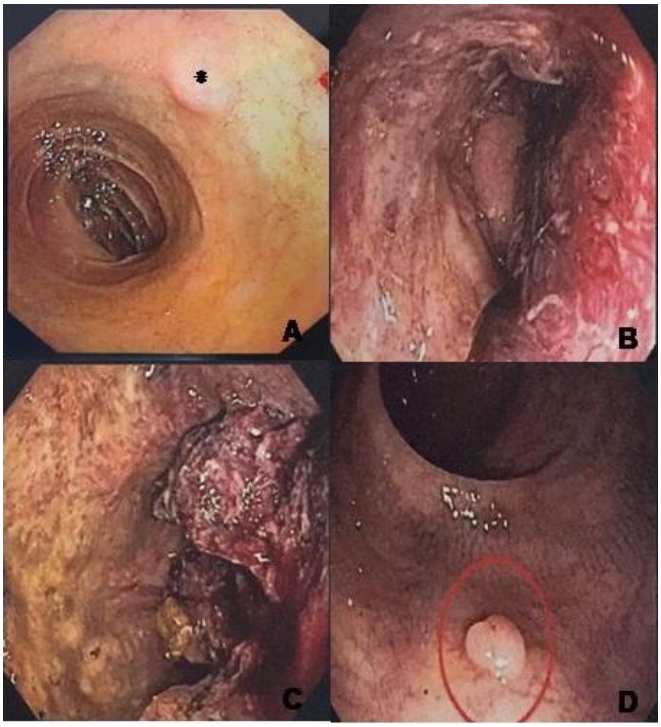

Figure 3. A (Upper digestive endoscopy): little sessile polyp observed at duodenal bulb (asterisk); B and C (Colonoscopy): exophitic tumor causing partial obstruction of the distal sigmoid colon; and D (Colonoscopy): the rectal sessile polyp (encircled).

Conflict of interest: none to be declared.

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