the tip of one central venous catheter, but this was not associated with bacteremia. The colony count for pneumococcus was also not specified. Groeger and colleagues described the port pocket infection of an implanted infusion port device by S. pneumoniae, but there was no associated bacteremia. Thus, it seems that pneumococcus can colonize and infect various forms of IV catheters and devices. However, after an extensive literature search through MEDLINE, to the best of our knowledge, an IV catheter has never been implicated as a source of pneumococcal bacteremia. Our patient received total parenteral nutrition through this central venous catheter for 6 days. Many of the central venous catheters mentioned in previous studies were used for parenteral nutrition. Even in studies of catheters used for total parenteral nutrition only, there were no cases of catheter-tip infection or bacteremia due to S. pneumoniae.13–17

The roll-plate method is a semiquantitative technique first described by Maki and colleagues in 1977.4 It has been extensively used since that time. A colony count > 15 on blood agar plate is considered significant and indicates that the catheter is the source of bacteremia. In this case, there were > 300 cfu on the tip of triple-lumen catheter. This would argue against secondary colonization of the catheter tip from primary bacteremia. Most of the catheter-related bacteremia involves organisms normally found on the skin surface, Staphylococcus aureus being the most serious pathogen.18 Maximum barrier precautions were used at the time of catheter insertion. It was unlikely that the catheter was contaminated by the operator’s nasopharyngeal flora. Pneumococcus is a part of the nasopharyngeal flora. However, it has been suggested that pneumococcus can become a part of the vaginal flora transiently when the organisms are transferred from the upper respiratory tract because of inadequate hygiene. This can cause peritonitis as a result of ascending infection through the female genital tract.19–20 Bartholin gland infection with S. pneumoniae has been reported.19 It is possible that the patient’s right femoral region was colonized with pneumococcus from either the upper respiratory tract or the genital tract. Although uncommon, S. pneumoniae can colonize a central venous catheter and can result in bacteremia.

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Yellow Nail Syndrome*

Resolution of Yellow Nails After Successful Treatment of Breast Cancer

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Yellow nail syndrome (YNS) is a rare entity of unknown cause in which congenitally hypoplastic lymphatics play a major role in the clinical manifestations of the disease. YNS has been associated with...
many malignancies and immune disorders. We report a case of new-onset YNS associated with breast cancer and dramatic improvement in the yellow nails with cancer treatment.

**Key words:** carcinoma of breast; chemotherapy; neoplasm; yellow nail

**Abbreviation:** YNS = yellow nail syndrome

Yellow nail syndrome (YNS) is a rare disorder, characterized by rhinosinusitis, pleural effusions, bronchiectasis, lymphedema, and dystrophic yellow nails. YNS has been associated with autoimmune disorders, such as thyroiditis, systemic lupus erythematosus, and rheumatoid arthritis. There are also isolated case reports of YNS associated with malignancies in cancer of the breast, larynx, lung, endometrium, gall bladder, metastatic sarcoma, metastatic melanoma, Hodgkin’s disease, and mycosis fungoides. It has also been described in tuberculosis, AIDS, and other immunodeficiency states, and with the use of certain drugs.

We report what we believe to be only the second case of breast cancer in which the yellow nails remitted after treatment. In this case, unlike the previous one, nail changes were restricted to the upper extremities.

**Case Report**

A 62-year-old woman presented with chronic cough of 1.5 years' duration. The cough was worse in the morning and intermittently productive of purulent sputum. Her pulmonary symptoms transiently responded to antibiotics but recurred about 2 to 3 weeks after their cessation. She also complained of chronic nasal congestion and postnasal drip but denied wheezing, skin disease, or other evidence of atopy and reported only one remote episode of lobar pneumonia. She also noted progressive yellowing of the nailbeds of both hands for several months before presentation. She denied corticosteroid use or evidence of immune deficits. There was no history of swallowing dysfunction, and her weight and appetite remained stable. She was on thyroid replacement therapy subsequent to a thyroidectomy (1964) for goiter and Hashimoto’s thyroiditis. She ceased smoking 2 years before, with a total of 10 to 15 pack-years. Her family history was unremarkable.

On physical examination, she was found to have dystrophic yellow nails in both hands (Fig 1) with normal toenails. Chest auscultation revealed bilateral, scattered, coarse crackles in the lower zones. There was no evidence of peripheral edema. The rest of the examination was not revealing. CT scan of the sinuses showed opacification of both maxillary sinuses and mucosal thickening of both sphenoid sinuses. High-resolution CT scan of the chest (Fig 2) showed mild cylindrical bronchiectasis mainly in the right lower lobe with subsegmental atelectasis in the right middle lobe and lingula. Also seen on this image was an unsuspected mass in the right breast measuring 1 x 1.5 cm with associated axillary lymphadenopathy. Excisional biopsy revealed an infiltrating ductal carcinoma of the breast positive for estrogen and progesterone receptors. Axillary lymph node dissection confirmed tumor nodal involvement (T1N1M0). She was treated with monthly cycles of cyclophosphamide, methotrexate, and 5-fluorouracil for 8 months. She quickly noted improvement in her dystrophic yellow nails, which appeared normal by the end of the chemotherapeutic regimen (Fig 1). She subsequently received radiation therapy and tamoxifen. In subsequent 2 year follow-up, there is no recurrence of tumor or yellow nails.

**Discussion**

Since the original description by Samman and White, many associations of YNS have been described. Airway manifestations include rhinosinusitis and bronchiectasis. Yellow nails result from slow growth, possibly secondary to defective lymphatic drainage. The nails become dystro-
phic with longitudinal or transverse ridging and loss of lunula and cuticles. Pleural effusions appear to be a later manifestation of the syndrome secondary to inadequate drainage by overstressed hypoplastic lymphatics rather than increased fluid production. The cause of bronchiectasis is unclear, but again, dysfunctional lymphatics are thought to play an important role with compromised drainage of secretions and local immune function.

Various malignancies have been associated with YNS, and one case of the yellow nails improved dramatically after resection of a laryngeal cancer. As in our case, Gupta et al reported similar improvement after surgery and chemotherapy for a carcinoma of the breast. Interestingly, improvement was seen in the fingernails only. Although partial or complete improvement in the nails may occur spontaneously in up to one third of patients, the temporal relationship and pace of the improvement strongly favors an association with successful treatment of malignancy. Possible explanations include direct involvement by tumor of already stressed and dysfunctional lymphatics or the elaboration of mediators such as peptide hormones that inhibit lymphatic function. Thus, yellow nails may be a paraneoplastic manifestation of cancer that may resolve with effective treatment. The diagnosis of YNS should raise the index of suspicion for malignancy and other associated diseases.

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Myxoid Liposarcoma of the Supraclavicular Fossa*

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Liposarcomas generally originate most often in the extremities or retroperitoneum, less frequently in the head and neck, and rarely in the thorax. We describe a particularly rare presentation of myxoid liposarcoma originating in the supraclavicular fossa. The mass was resected and has not recurred. We searched our pathology database for other soft-tissue tumors of the supraclavicular fossa and found no other case of sarcoma originating in this site. In addition, we performed a literature review of thoracic and neck liposarcomas to identify similar cases and discuss their clinical course.

Key words: myxoid liposarcoma; soft-tissue sarcoma; supraclavicular fossa

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Selected Reports