DIAGNOSIS IN ONCOLOGY

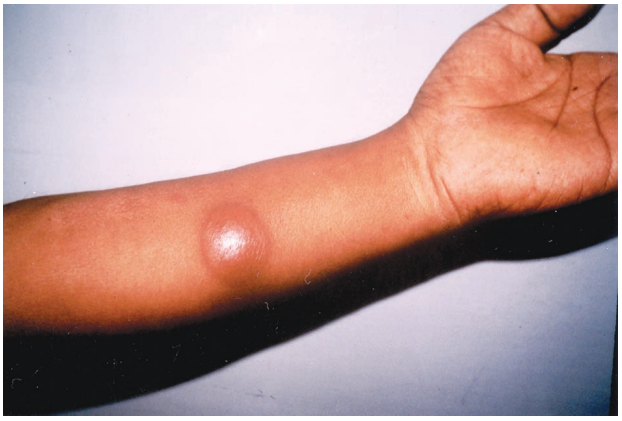
Arthur Skarin, MD, Consultant Editor

Skin Lesions in Malignancy

CASE 1. CHRONIC MYELOID LEUKEMIA IN LYMPHOID BLAST CRISIS PRESENTING AS MULTIPLE CUTANEOUS MASSES

A 47-year-old man presented with intermittent fever, abdominal pain, and multiple cutaneous masses over the right side of face, flexor aspect of the left forearm, and the anterior aspect of the right leg of 2 month's duration. The cutaneous lesion over the forearm measured 5 × 3 cm and was nontender (Fig 1). Physical examination also revealed significant splenomegaly of 7 cm below the left costal margin.

A complete hemogram showed high leucocyte count of 40 × 10^9/L with expansion in the myeloid series of cells. Bone marrow examination also showed myeloid hyperplasia. Cytogenetics revealed the presence of the Philadelphia chromosome [t (9:22)]. Fine-needle aspiration of the subcutaneous nodule was performed. Air-dried smears stained with May-Grünwald-Giemsa stain showed groups of round to oval blasts with scanty agranular cytoplasm and indistinct nucleoli. These were admixed with other myeloid cells, including myelocytes, band forms, and neutrophils (Fig 2). Cytogenetic analysis of the aspirated material also revealed the Philadelphia chromosome.



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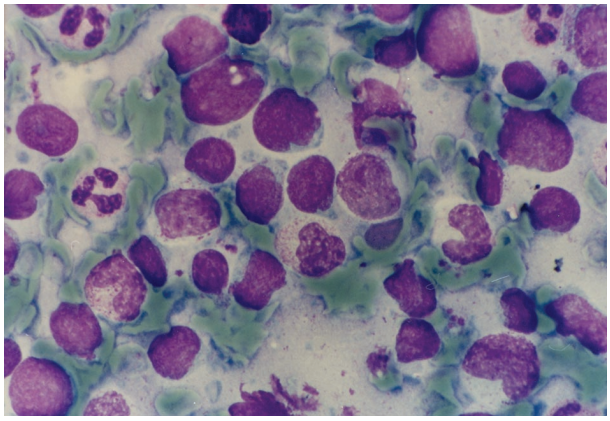

Fig 2.

Before definitive therapy could be instituted, the patient developed a rapid increase in the leucocyte count, exceeding 100 × 10^9/L, and 70% blasts were seen in the peripheral smear. Cytochemistry revealed the blasts to be negative for myeloperoxidase. The periodic-acid-Schiff stain showed large block positive granules. Immunophenotypic analysis by the flow cytometric method with a panel of monoclonal antibodies revealed the blasts to be positive for terminal deoxynucleotidyl transferase in 90% of the cells, with negativity for CD13, CD14, and CD41. A final diagnosis of chronic myeloid leukemia in lymphoid blast crisis with cutaneous involvement was made and the patient was started on multiagent systemic chemotherapy with vincristine, doxorubicin, L-asparaginase, and prednisolone. Within 2 weeks, the patient showed clinical and hematologic improvement, with regression of the cutaneous lesions.

Leukemia cutis is an uncommon manifestation of leukemia and may present as a skin rash or as multiple skin-based tumors.[1] It may appear concomitantly with systemic leukemia or after leukemia has been diagnosed.[2] Although it has been described more commonly in acute monocytic and myelomonocytic leukemias, it has been rarely described in chronic myeloid leukemia.[3] This case highlights the unusual presentation of chronic myeloid leukemia in extramedullary blast crisis in the form of cutaneous deposits.

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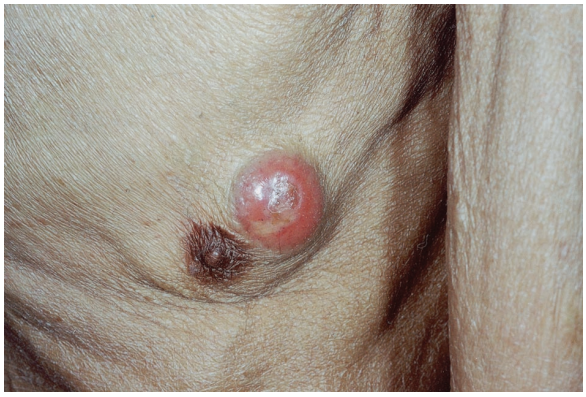
CASE 2. SKIN METASTASES FROM PROSTATE ADENOCARCINOMA

A 67-year-old black man was referred for management of androgen-independent prostate cancer metastatic to bone, mesentery, and retroperitoneal lymph nodes. After a transient clinical response to weekly doxorubicin chemotherapy, he developed worsening bone pain and bilateral deep venous thromboses. Prostate-specific antigen increased to 582 ng/mL. Restaging evaluation demonstrated new bone metastases and further enlargement of retroperitoneal lymph nodes.

He subsequently developed numerous firm erythematous skin nodules involving the scalp, neck, groin, and breast (Fig 1).



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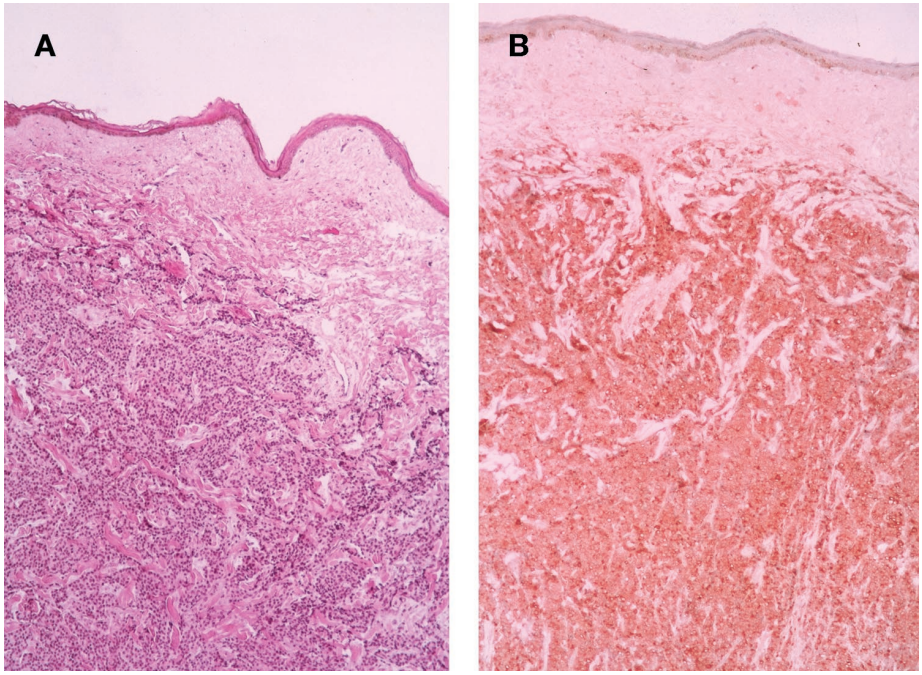

Fig 2.

The nodules varied in size from 1 to 4 cm in greatest dimension. Biopsy of a skin nodule revealed extensive replacement of the dermis by sheets, anastomosing cords, and small aggregates of tumor cells (Fig 2A). No well-formed acini were identified. On higher magnification, tumor cells had abundant eosinophilic cytoplasm, large, round nuclei with prominent nucleoli, and brisk mitotic activity. Immunohistochemical stains for prostate-specific antigen demonstrated diffuse and strong positivity in all tumor cells (Fig 2B). The patient refused further active treatment and died from progressive disease 2 months after initial presentation with skin metastases.

Skin metastases are a rare manifestation of prostate adenocarcinoma. Prostate cancer accounts for less than 1% of all skin metastases.[1-3] Prostate cancer skin metastases typically present as multiple nodules, with preferential involvement of the suprapubic region and the anterior aspect of the thighs.[2,3] The nipples and periareolar skin are also commonly involved, as was the case in our patient. Occasionally skin metastases appear as sclerodermoid lesions.[2,3] Skin metastases from prostate cancer are an ominous finding, and most patients die within 6 months.[2,3]

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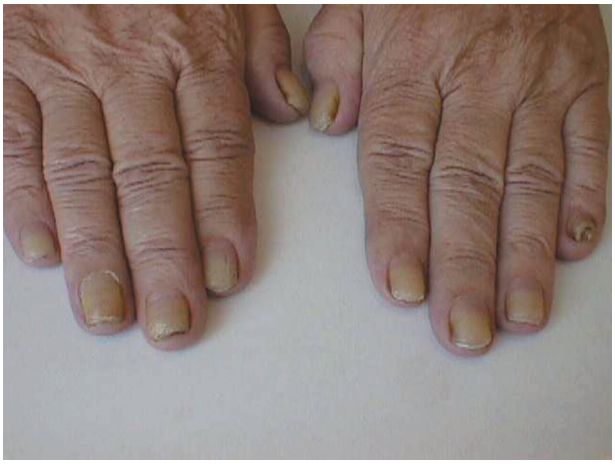
CASE 3. YELLOW NAIL SYNDROME IN NON-HODGKIN'S LYMPHOMA

A 61-year-old white male was referred because of abdominal lymphadenopathy. He had a 2-year history of yellow discoloration of all of his nails on his feet and hands (Fig 1). Furthermore, he had hypertension, myocardiopathy, and chronic bronchitis with acute flares for 2 years. An abdominal computed tomography scan showed the presence of retroperitoneal and left iliac lymphadenopathy. The thoracic computed tomography scan showed no lymphadenopathy, but bronchiectasis with bronchial wall thickening and bronchial dilation were present in both lower lobes. After an abdominal lymph node biopsy was performed, a diagnosis of B-cell lymphoma was made. The patient was treated with eight cycles of chemotherapy with cyclophosphamide, doxorubicin, vincristine, and prednisone. After the first cycle, the proximal halves of the fingernails had become clear, whereas the distal halves were still yellowish and thickened (Fig 2). After four cycles of chemotherapy, complete regression of lymphoma occurred and was associated with a normal appearance of all of the nails (Figs 3 and 4). However, the patient relapsed 4 months after the end of chemotherapy and died of disease 3 months later. The yellow nails had begun to recur.



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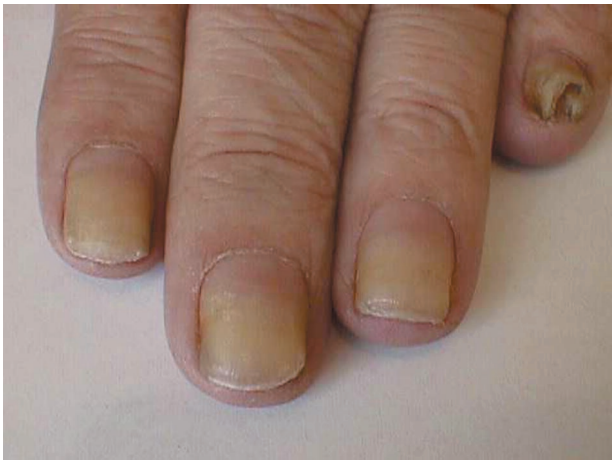

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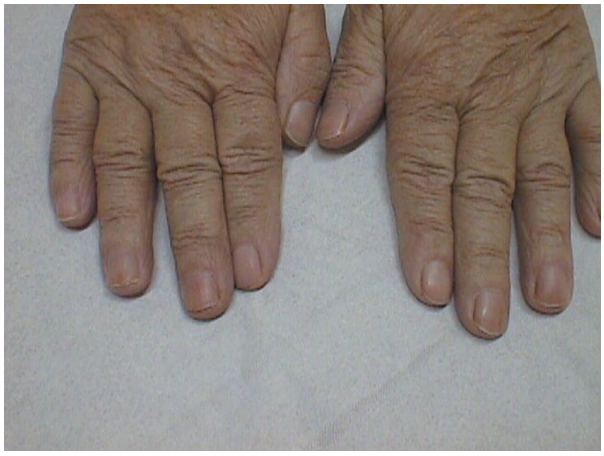

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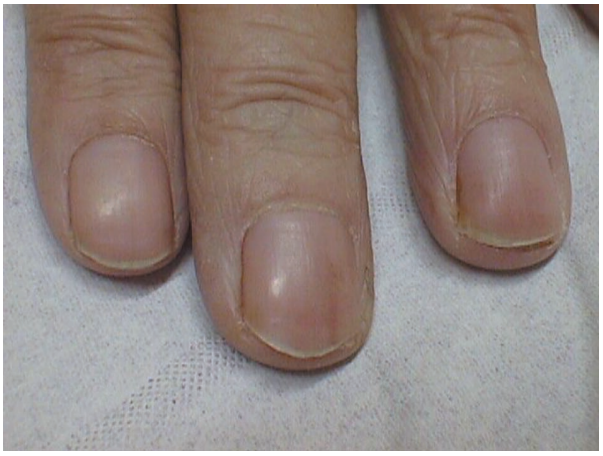

Fig 4.

The full-blown yellow nail syndrome (YNS) is characterized by the triad of arrested nail growth, chronic respiratory disorders, and dysplasia of the nail lymphatics.[1,2] However, most cases are monosymptomatic, exhibiting only characteristic alterations of all nails: excessively curved nail from side to side and pale yellow to slightly green color.[2] The pathogenesis of YNS is obscure. Anatomic dysplasia of the lymph vessels may account for both lymphedema and respiratory infections but does not explain the altered nail growth.[1] Some authors have reported drug-induced YNS[3] as well as AIDS-associated YNS.[4] Neoplasia has been associated with this syndrome.[5-8] YNS and non-Hodgkin's lymphoma have been reported in only one case described, in which nail appearance of a patient with mycosis fungoides did not improve despite a remission of the hematologic malignancy.[9] In summary, our case adds further support to the association between malignancy and YNS as a paraneoplastic syndrome.

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EDITOR'S NOTE: PNET VERSUS pPNET

The January 1, 2001, Diagnosis in Oncology article entitled "Case 1. Sucking and Recovery After Brain Surgery" (J Clin Oncol 19:273-274, 2001) featured a 12-month-old girl with primitive neuroectodermal tumor (PNET) of the posterior fossa. This tumor, also called a medulloblastoma, occurs often in children but rarely in adults. It should not be confused with a peripheral primitive neuroectodermal tumor (pPNET) of the Ewing's sarcoma family.

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