

## Paraneoplastic Skin Conditions, Part 1

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Diagnosis	Commonly Associated Malignancy	Common Sites and Presentations	Other <sup>a</sup>
Acanthosis nigricans	Gastric carcinoma	Widespread and pruritic; can precede malignancy diagnosis by months	Associated with other carcinomas, insulin resistance, and diabetes mellitus; associated with tripe palms
Acquired ichthyosis	Hodgkin lymphoma	Extensor surfaces	Associated with breast and lung cancer
Acrokeratosis paraneoplastica (Bazex syndrome)	Squamous cell carcinoma of the upper aerodigestive tract	Acral sites, ears, nose, nails	Course follows that of the underlying malignancy; associated with breast and colon cancer
Alopecia neoplastica	Metastatic breast carcinoma	Scarring scalp alopecia	Associated with gastric, lung, renal, and pancreatic cancer
Amyloidosis	Multiple myeloma and other plasma cell diseases	Periorificial sites, oral mucosa, scalp	Primary systemic form; AL protein seen
Carcinoid syndrome	Argentaffin cell neoplasm of the gastrointestinal tract	Facial and upper body flushing, bronchospasm, diarrhea	Test with 24-hour urine 5-hydroxyindoleacetic acid; most common site: ileum
Cicatricial pemphigoid (antiepiligrin)	Adenocarcinomas of the lung, stomach, colon, and uterus	Oral and ocular mucosa and skin	Antibodies against laminin-5 (laminin-332) result in dermal staining on salt-split skin IIF
Cryoglobulinemia (type I)	Lymphoproliferative disorders	Livedo reticularis, Raynaud phenomenon, acrocyanosis	Monoclonal IgG or IgM
Cryoglobulinemia (type II and type III)	Lymphoproliferative disorders	Leukocytoclastic vasculitis, arthritis, arthralgia	Monoclonal IgM against polyclonal IgG (type II); polyclonal IgM against IgG (type III); rheumatoid factor activity against Fc portion of IgG; associated with HIV, HCV, and connective-tissue disorders
Cushing syndrome	Lung carcinoma (oat cell or small cell)	Skin hyperpigmentation, striae, telangiectasia, hirsutism, facial plethora	Test with 24-hour urine cortisol and dexamethasone suppression test

Abbreviations: AL, amyloid light chain; IIF, indirect immunofluorescence; Fc, fragment crystallizable; HIV, human immunodeficiency virus; HCV, hepatitis C virus.

<sup>a</sup>Associations in order of frequency.

## Practice Questions

- 1. What malignancy is most commonly associated with alopecia neoplastica?**
  - a. breast cancer
  - b. gastric cancer
  - c. lung cancer
  - d. pancreatic cancer
  - e. renal cancer
  
- 2. What urine test would be ordered for a patient with suspected carcinoid syndrome?**
  - a. cortisol
  - b. histamines
  - c. 5-hydroxyindoleacetic acid
  - d. protein level
  - e. vanillylmandelic acid
  
- 3. Which type of amyloid should a patient with multiple myeloma and primary systemic amyloidosis exhibit?**
  - a. protein derived from  $\beta$ -amyloid protein
  - b. protein derived from  $\beta_2$ -microglobulin protein
  - c. protein derived from immunoglobulin light chains
  - d. protein derived from keratin
  - e. protein derived from serum amyloid A protein, an acute-phase reactant
  
- 4. Antiepileptic pemphigoid is most commonly characterized by autoantibody production against:**
  - a.  $\beta_4$ -integrin
  - b. bullous pemphigoid antigen 2
  - c. laminin-6
  - d. laminin-332
  - e. type VII collagen
  
- 5. What is the most common malignancy seen in patients who are diagnosed with acquired ichthyosis?**
  - a. chronic lymphocytic leukemia
  - b. Hodgkin lymphoma
  - c. multiple myeloma
  - d. non-Hodgkin lymphoma
  - e. Waldenström macroglobulinemia

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