

Erythematous Plaques and Nodules on the Abdomen and Groin

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An 82-year-old man presented with acute abdominal pain and distension as well as an abdominal rash of 4 months' duration that was expanding despite treatment with topical miconazole. He had a history of melanoma and bladder cancer treated with cystoprostatectomy. He previously was diagnosed with candidiasis of his urostomy and was taking oral fluconazole. Physical examination revealed a large, well-demarcated, erythematous, smooth plaque covering the entire abdomen, scrotum, penis, inguinal folds, and bilateral upper thighs, with several satellite plaques and firm nodules clustered around the umbilicus. An 8-mm punch biopsy of a periumbilical nodule was performed.

WHAT'S THE DIAGNOSIS?

- contact dermatitis
- erysipelas
- inflammatory urothelial carcinoma
- Majocchi granuloma
- recalcitrant tinea cruris

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The authors report no conflict of interest.

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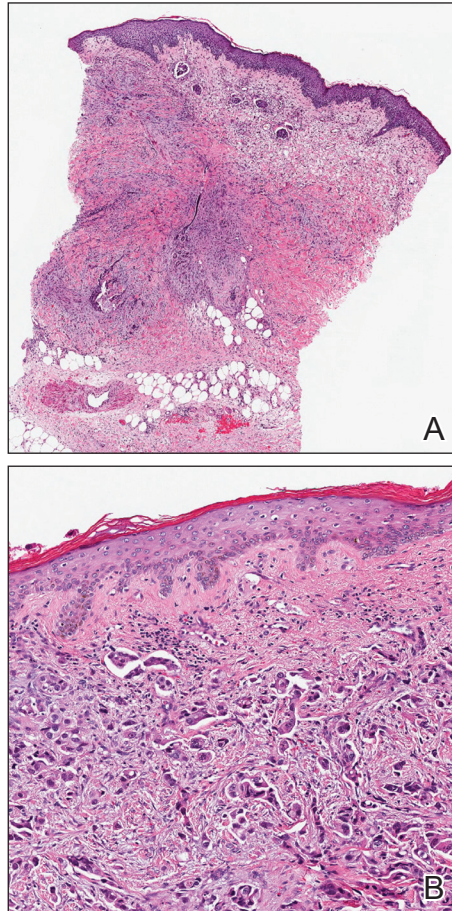
THE DIAGNOSIS: Inflammatory Urothelial Carcinoma

Microscopic examination revealed metastatic carcinoma with extensive dermal lymphatic invasion (Figure). Immunohistochemical stains were positive for p63 and GATA3, markers for urothelial carcinomas, and negative for S-100 and Melan-A, markers for melanoma. Thus, the biopsy was compatible with a diagnosis of urothelial carcinoma. Gram and Grocott-Gomori methenamine-silver stains were negative for bacterial or fungal organisms. An additional 4-mm punch biopsy was performed of the left thigh at the distal-most aspect of the eruption to determine the extent of cutaneous metastasis. Pathology again showed metastatic urothelial carcinoma with extensive dermal lymphatic involvement and overlying epidermal spongiosis.

The patient had a history of bladder cancer diagnosed 1.5 years prior to presentation. It was a high-grade (World Health Organization) urothelial carcinoma that penetrated the bladder muscular wall, focally infiltrating into pericyclic fat with multifocal seeding of pericyclic lymphatics. It was unresponsive to bacillus Calmette-Guérin therapy. He underwent a cystoprostatectomy and bilateral staging lymph node dissection with clear surgical margins without adjuvant chemotherapy or radiation. He also reported a history of 2 prior cutaneous melanomas that were excised without sentinel lymph node biopsy.

Four months prior to presentation, he developed a mildly pruritic cutaneous eruption on the abdomen that was treated with topical miconazole for presumed tinea cruris without improvement. He also was previously diagnosed with candidiasis of his urostomy and was taking oral fluconazole. The patient was admitted for the abdominal pain and distension, and computed tomography of the abdomen and pelvis revealed peritoneal carcinomatosis resulting in mechanical small bowel obstruction as well as enlarged pelvic and retroperitoneal lymph nodes. Confirmation of metastatic disease via skin biopsy avoided an invasive peritoneal biopsy. He was treated with triamcinolone acetonide ointment 0.1% with moderate relief of pruritus, and a palliative percutaneous endoscopic gastrostomy tube was placed for bowel decompression. The patient's hospital course was complicated by *Proteus mirabilis* bacteremia requiring cefepime. He was transitioned to home hospice and died 1 month after presentation.

Inflammatory carcinoma, also called carcinoma erysipelloides, is a type of cutaneous metastasis most commonly seen in breast adenocarcinoma. Reported cases secondary to urothelial carcinoma are rare and most often involve the abdomen, groin, and lower extremities.¹⁻⁵ Clinically, inflammatory carcinoma presents as erythematous indurated patches or plaques with well-defined borders, often



Inflammatory urothelial carcinoma. A and B, An 8-mm punch biopsy of a periumbilical nodule showed metastatic carcinoma with extensive dermal lymphatic invasion (H&E, original magnifications $\times 20$ and $\times 120$).

with edema, warmth, and tenderness. Its morphologic appearance is due to the obstruction of lymphatic vessels by tumor cells and the release of inflammatory cytokines. Its presentation can mimic other dermatoses such as cellulitis, erysipelas, fungal infection, radiation dermatitis, Majocchi granuloma, or contact dermatitis.⁶ Cutaneous metastases may be the first clinical manifestations of metastatic disease, and they may occur due to hematogenous and lymphatic spread, direct contiguous tissue invasion, or iatrogenic implantation following surgical excision of the primary tumor. Histologically, nuclear markers GATA3 and p63 stain positively in urothelial carcinomas and are negative in prostatic adenocarcinomas.^{7,8} Other markers may be used such as cytokeratins 7 and 20, which are cytoplasmic epithelial markers that both stain positive in urothelial neoplasms.⁹

Inflammatory carcinoma may be treated with radiation or systemic chemotherapy depending on the extent of systemic involvement in the patient; however, its presence portends a poor prognosis. Less than 1% of genitourinary malignancies have cutaneous involvement, and median disease-specific survival is less than 6 months from presentation of the cutaneous metastasis.¹⁰ Clinicians faced with a recalcitrant inflammatory cutaneous eruption should maintain a high index of suspicion for cutaneous metastases, particularly in patients with a history of cancer. Early dermatology referral may help establish the diagnosis and guide disease-targeted therapy or goals of care discussions.

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