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Teaching NeuroImage: Cutaneous Lesions and Leptomeningeal Carcinomatosis in Gastric Signet-Ring Cell Carcinoma

Author(s):
Andrew Silverman, MD, MHS[1]; Deanne Loube, MD[1]; Martavius Lovall, MD[1]; Chrysa Cheronis, MD[1]; Evan Madill, MD[1]; Cristoph Karch, MD, PhD[1, 2]

Corresponding Author:
Andrew Silverman, andrew.silverman@stanford.edu

Affiliation Information for All Authors: 1. Department of Neurology, Stanford University School of Medicine, Palo Alto CA; 2. Department of Neurology, Santa Clara Valley Medical Center, San Jose CA.

Equal Author Contribution:

Contributions:
Andrew Silverman: Drafting/revision of the manuscript for content, including medical writing for content; Major role in the acquisition of data; Study concept or design; Analysis or interpretation of data
Deanne Loube: Drafting/revision of the manuscript for content, including medical writing for content; Major role in the acquisition of data
Martavius Lovall: Drafting/revision of the manuscript for content, including medical writing for content; Major role in the

acquisition of data
Chrysa Cheronis: Drafting/revision of the manuscript for content, including medical writing for content
Evan Madill: Drafting/revision of the manuscript for content, including medical writing for content; Major role in the acquisition of data
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A 61-year-old male with a 47 pack-year smoking history presented after a month of positional headache, blurry vision, early satiety, and weight loss. His neurological exam demonstrated bilateral papilledema but was otherwise unremarkable. Lumbar puncture was significant for 40 cmH_2O opening pressure, glucose 27 mg/dL, protein 48 mg/dL, 5 red blood cells, 8 leukocytes, and atypical keratin-positive cells. Skin exam revealed multiple nodules that had appeared a week prior to symptom onset (Figure, A and B). MRI showed enhancement of (Figure, C) the facial and vestibulocochlear nerve complex, (Figure, D) trigeminal nerve, (Figure, E) patchy spinal leptomeninges, and (Figure, F) cauda equina nerve roots. Skin lesion biopsy and CSF cytology both revealed signet-ring carcinoma. Subsequent endoscopy revealed primary gastric cell adenocarcinoma. Leptomeningeal carcinomatosis is rare and occurs in only 0.14-0.24% of all gastric carcinomas. [1,2] To our knowledge, cutaneous and concurrent leptomeningeal spread of gastric cancer has not been reported. This case highlights the relevance of a general exam and consideration of comorbidities in approaching an unclear neurological presentation, particularly when considering possible leptomeningeal disease.

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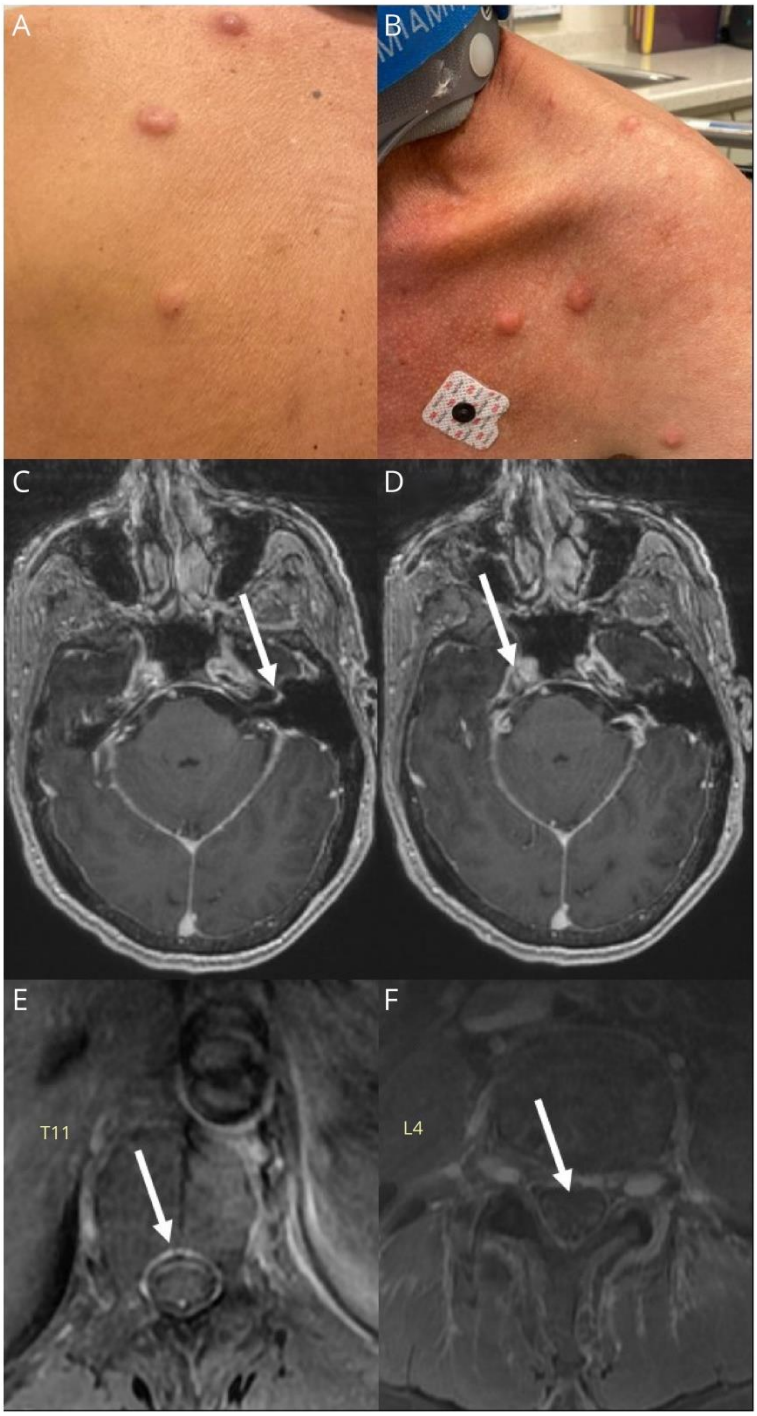
Figure: Examination and imaging findings. Pink and violaceous papules and nodules on the (A) back, (B) shoulder and chest. Axial T1 post-contrast MRI brain sequences showing: (C) Linear enhancement of the left facial and vestibulocochlear nerve complex; (D) Enhancement of the right trigeminal nerve in Meckel's cave; (E) Leptomeningeal enhancement at the level of T11; (F) Cauda equina nerve root enhancement, cumulatively concerning for diffuse, patchy leptomeningeal disease.



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