Recognizing Rare Rashes: A Case of Acute Generalized Exanthematous Pustulosis

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Introduction

Acute generalized exanthematous pustulosis (AGEP) is a rare, acute eruption of pustules that is most often caused by drugs, particularly beta lactam antibiotics. The mechanism of development is a drug-specific T cell mediated inflammatory response. AGEP is extremely rare, with an incidence of one to five per million per year. While rare, it is important to have on the differential for pustular eruptions as prompt withdrawal of the offending agent is crucial to resolution of the outbreak.

Description and Methodology

A 43 year old female with a past medical history of migraines presented to the ED with three days of right flank pain and fevers. She had no other associated symptoms. A thorough workup was done upon admission. Lab workup was unrevealing. A CT of the abdomen/pelvis incidentally found a right lower lobe pneumonia. As there were no acute intraabdominal findings, this was presumably the source of her right flank pain. She was started on azithromycin and ceftriaxone for empiric community-acquired pneumonia coverage. The following day, she developed a pruritic rash over her upper back, chest, and torso. There was concern for an allergic reaction to the antibiotics, so she was given an antihistamine and both azithromycin and ceftriaxone were discontinued. She was started on levofloxacin, but after 24 hours on this the rash continued to progress and became more pustular in nature.

Image 2

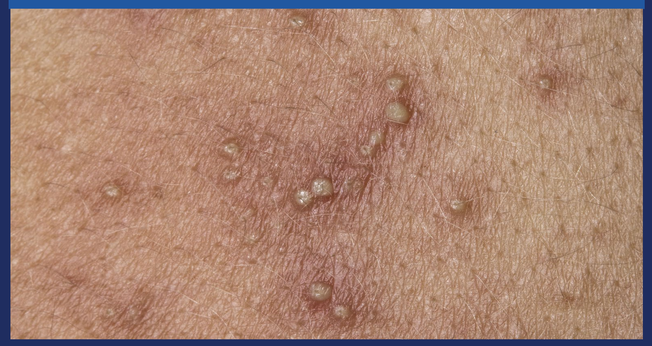
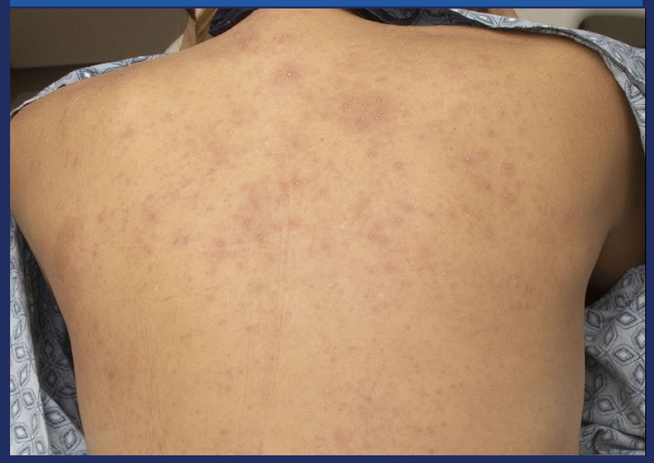


Image 1



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Results

As the rash continued to progress despite switching antibiotic therapy, dermatology was consulted. Biopsies of the rash were obtained and showed 2+ cutibacterium acnes. While pathology felt the biopsies were most consistent with folliculitis, dermatology favored the diagnosis of AGEP given the rash's rapid onset in the setting of recent beta lactam use. Ultimately, it was determined that the bacterial growth on the biopsy was due to sampling error and that the rash was in fact secondary to AGEP. For the remainder of her admission, this was managed symptomatically with triamcinolone cream and oral Benadryl, and the rash resolved after 7 days. Separately, further workup determined her pneumonia to be due to coccidiomycosis. All antibiotics were discontinued and she was discharged home with a course of fluconazole.

Discussion

The majority of AGEP cases are caused by drugs, namely antibiotics, antifungals, and diltiazem. It presents as the rapid development of numerous small pustules within hours to days of starting the offending drug. Classically, histopathology shows spongiform subcorneal and/or intraepidermal pustules. This case highlights the importance of clinical context as skin biopsies did not demonstrate typical findings. AGEP management centers around prompt removal of the causative agent. Other treatment is largely supportive, usually involving topical steroids. Generally, the rash resolves spontaneously in 1-2 weeks without major sequelae. It is important to maintain a high suspicion of AGEP in patients who quickly develop a widespread, pustular rash after starting one of the common offending agents.