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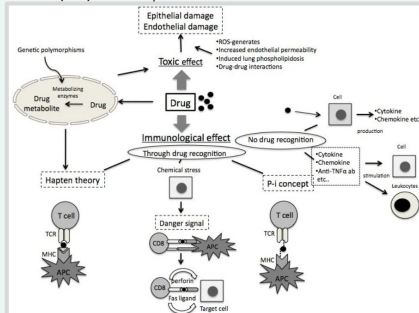
BREATHLESS FROM BACTRIM: A CASE OF ORGANIZING PNEUMONIA SECONDARY TO TRIMETHOPRIM/SULFAMETHOXAZOLE-INDUCED LUNG INJURY

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INTRODUCTION

- Drug-induced pulmonary toxicity refers to a spectrum of adverse lung reactions triggered by various medications.
- Presenting signs can include fever, cough, dyspnea, hypoxemia, and infiltrates on chest imaging. The severity can vary widely.
- Sulfonamide antibiotics are particularly associated with iatrogenic interstitial lung disease (ILD) in susceptible individuals.

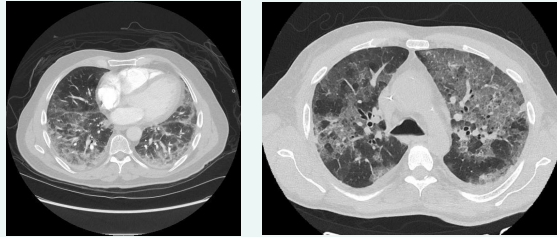


From Matsuno, O (2012). <https://doi.org/10.1186/1465-9921-13-39>

PATIENT PRESENTATION

- A 65-year-old man with a history of hypertension, hyperlipidemia, chronic marijuana use, and recent bacterial prostatitis presented with progressively worsening dyspnea, fever, and dry cough two weeks into treatment with trimethoprim/sulfamethoxazole (TMP/SMX).
- He was afebrile, hemodynamically stable, and tachypneic with accessory muscle use and coarse crackles at his lung bases. Capillary oxygen saturation dipped into the 70-80% range with extended conversation requiring 6 L/min oxygen by nasal cannula.
- Chest x-ray showed patchy, interstitial opacities suggestive of multifocal pneumonia. He was treated with ceftriaxone and doxycycline, however he did not improve.

CLINICAL COURSE



CT imaging revealed diffuse ground-glass opacities with bibasilar predominance.

- Infectious workup was negative including COVID-19, legionella, MRSA, HIV, tuberculosis, and an extended respiratory pathogen panel.
- Autoimmune workup (ANA IFA, RF, GBM, ANCA), myositis-specific antibodies, vasculitis panel, and hypersensitivity pneumonitis panel were all negative.
- Echocardiogram and EKG were unremarkable.
- Transbronchial lung biopsy demonstrated organizing pneumonia with evidence of acute and chronic inflammation, background hemosiderin-laden macrophages, and anthracosis.
- One tissue fragment revealed a focus of PDL1-negative moderately differentiated squamous cell carcinoma; however, outpatient PET scan was negative for avid lesions.
- Bronchoalveolar lavage aspirate showed lymphocyte predominance (34%). Gram stain and bacterial, fungal, and AFB cultures were negative.
- The patient was diagnosed with drug-induced organizing pneumonia and started on high-dose steroids and mycophenolate with modest clinical improvement. He was discharged on 3 L/min O₂ by nasal cannula.

DISCUSSION

- Identifying drug-induced ILD represents a challenge for clinicians and is often considered a diagnosis of exclusion. Ground-glass opacities can be nonspecific and represent a broad differential diagnosis.
- Adverse reactions to TMP/SMX occur in approximately 6-8% of cases and are associated with immune-mediated side effects ranging from mild allergic reactions to Stevens-Johnson Syndrome. The FDA lists ILD, eosinophilic pneumonia, acute/delayed lung injury, and respiratory failure as risks of TMP/SMX therapy.
- In this case, the development of chronic hypoxic respiratory failure despite withdrawal of TMP/SMX may be attributable to delayed discontinuation of the offending agent, chronic marijuana use, questionable underlying malignancy, and/or cryptogenic disease.

CONCLUSION

- This case highlights the importance of recognizing drug-induced lung injury as a potential cause of respiratory failure in patients with ground glass opacification on imaging, especially when infectious and autoimmune workup is negative.

REFERENCES & ACKNOWLEDGMENTS

- We extend many thanks to the internal medicine faculty at ChristianaCare for their guidance on this case, and we express sincere appreciation to the patient for generously offering to share his story.

Please scan the QR code below to access references:

