TP036 WHAT DRUG CAUSED THAT? CASE REPORTS IN DRUG-INDUCED LUNG DISEASE

An Old Foe: Nitrofurantoin Induced Acute Pulmonary Toxicity

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Introduction

The lungs are often adversely affected by a variety of toxins including a multitude of medications. Nitrofurantoin induced lung injury has been noted to be increasing in recent years.

Case

A 23-year-old lady with well-controlled asthma presented with nonproductive cough, chills, and dyspnea for two days, without any chest pain or rashes. A week ago, she completed a three day course of antibiotics for a urinary tract infection. There were no sick contacts nor any history of travel. She was a lifetime nonsmoker and did not vape. At presentation, she was febrile and hypoxic on room air.

Pulmonary examination revealed occasional inspiratory crackles and no rashes were found. Investigations were notable for leukocytosis, peripheral eosinophilia at 10%, with low C-reactive protein and procalcitonin, and a negative respiratory viral panel. Initial chest-Xray (CXR) revealed peribronchial thickening (**Figure-1**) and computed tomography pulmonary angiogram (CTPA) revealed bilateral ground glass opacities (**Figure-2**).

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She was put on supplemental nasal oxygen and antibiotics to treat a suspected atypical pneumonia were started. Blood and sputum cultures remained sterile while urine legionella and streptococcus antigens were negative. She steadily improved and was titrated off oxygen in a day. She was discharged home after three days of hospital stay and completed seven days of antibiotics. At her two months clinic follow-up she was doing well, with a repeat CT thorax revealing complete resolution of the pulmonary opacities (**Figure-3**).

Images

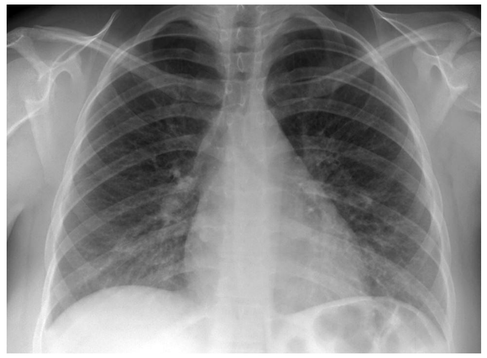

Fig-1: CXR showing mild peribronchial thickening

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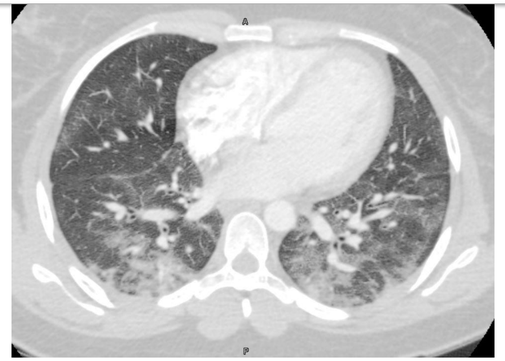

Fig-2: CTPA showing bilateral ground glass opacities

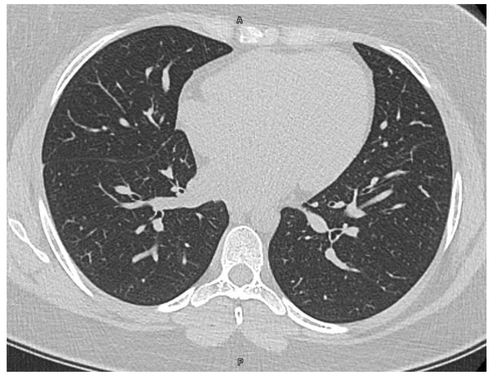

Fig-3: CT thorax showing radiologic resolution

Discussion

Our differentials included atypical pneumonia, acute hypersensitivity pneumonitis, acute eosinophilic pneumonia, acute interstitial pneumonia, and nitrofurantoin induced acute pulmonary toxicity.

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With a Naranjo algorithm score of six, nitrofurantoin induced pulmonary toxicity was considered the probable etiology.

Nitrofurantoin induced pulmonary toxicity can either present as an acute reaction or a chronic pneumonitis. Acute presentation commonly follows within two weeks of exposure while the chronic variety can present after months. Both forms are more common in women. Pathogenesis of this acute toxicity likely involves a type III hypersensitivity reaction.

Diagnosis depends on the characteristic presentation, relationship to recent nitrofurantoin exposure, and prompt response to drug discontinuation, which is also the cornerstone of therapy. The recovery is generally rapid, as noted above, with radiologic resolution over weeks. Nitrofurantoin should not be reused due to high rates of recurrence.

This case reflects the need for vigilance for uncommon adverse effects of commonly used medications and their appropriate management.