Nitrofurantoin Induced Lung Toxicity: A Rare Adverse Effect

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Nitrofurantoin Induced Lung Toxicity: A Rare Adverse Effect

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Introduction
- Nitrofurantoin is a commonly used antibiotic, primarily for the use of uncomplicated urinary tract infections (UTIs) and prophylaxis for recurrent UTIs.
- Nitrofurantoin lung toxicity can occur with short or long term exposure, and can manifest as acute or chronic lung toxicity.
- Females are more likely to be affected than males. Lung toxicity secondary to nitrofurantoin occurs in 1 in 5000 patients initially exposed to the drug.
- The majority of patients who experience nitrofurantoin induced lung toxicity have acute reactions 80% vs 20% with chronic.

Case Presentation
65 year old female with a past medical history of hyperlipidemia and recurrent UTIs on nitrofurantoin, presented to the ER with the chief complaint of worsening cough. Her cough was dry, nonproductive, and associated with rhonchi, no wheezing.

• Hypoxic respiratory failure due to bi PNA
• Desaturating, in resp. distress, required BiPAP overnight, resp status stable

Vitals: Afebrile, HR 102 bpm RR 18 BP 102/56 O2 90% on RA

Hospital Course
- Patient agreed to intubation, currently on ARDS
- Steroids
- Autimmune/asplastic workup not significant
- Patient reluctant about intubation
- Started on Steroids
- Worsening resp status
- Desaturating on BiPAP
- Upgraded to BiPAP

• Hyposic respiratory failure due to bi PNA
• Desaturating, in resp. distress, required BiPAP overnight, resp status stable

Discussion
- Nitrofurantoin lung toxicity should be suspected in those with recent exposure – whether acute or chronic, in the context of new respiratory symptoms unexplained by infection.
- Our patient underwent extensive workup, with input from infectious disease, pulmonology and rheumatology, with the ultimate diagnosis being nitrofurantoin induced lung toxicity. Due to the frequency of nitrofurantoin use in many of our patients, it is important to identify this adverse effect given that we do not have any guidelines regarding the identification and treatment of this disease.
- As with many other drug induced toxicities and adverse effects, stopping the offending agent may help improve outcomes, and potentially spare the patient hospitalization, intubation or death. It is important to recognize this adverse effect in the inpatient and outpatient settings and to spread awareness and educate our fellow colleagues.

Labs & Imaging

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- Trops negative x 3
- BNP – 678
- ANA – weakly positive
- Anti RNP – weakly positive
- Resp panel – negative
- Legionella, Mycoplasma, Strep Ag - negative
- ABGs

- D1: 7.40/53/66 on BiPAP
- 100% FiO2
- D3: 7.37/48/60 on BiPAP
- 100% FiO2
- D6: 7.47/49/110 on BiPAP
- D9: 7.27/69/ 130 just prior to intubation

References
- 447 cases reported to the Swedish Adverse Drug Reaction Committee 1966
- holmberg L, negative x 3
- hypoxic respiratory failure due to bi PNA
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