TELAPREVIR INDUCED URATE NEPHROPATHY
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Case Presentation:
Mr. J is a 59 year old male with a history of hypertension and hepatitis C, genotype 1b. A liver biopsy in 2004 showed chronic hepatitis stage 2, and fibrosis stage 1. The patient underwent treatment with peginterferon and ribavirin in 2006. He tolerated 12 weeks of treatment but failed to have a 2-log decrease in viral loads, and therapy was discontinued. In 2012 he approached his gastroenterologist requesting treatment with the new medicine for hepatitis C. Baseline laboratory work showed hepatitis C viral load 6.5 log copies, AST 171, ALT 243, and other results normal, but notable for a creatinine of 0.8 and uric acid of 5.8. He initiated triple therapy with peginterferon, ribavirin and telaprevir. Five days after starting treatment, repeat labs were drawn, and soon afterwards, he experienced some fatigue, nausea and had two episodes of emesis. The lab tests were abnormal for a creatinine of 3.8 and a uric acid of 18.3. The remaining labs were largely unchanged. Triple therapy was discontinued and he was directly admitted to the hospital. He denied decreased oral intake or decreased urine output, and the rest of the review of systems was likewise negative. Home medications included losartan 50mg daily, triamterene-hydrochlorothiazide 37.5/25 mg daily, metoprolol tartrate 12.5 mg twice daily, and meloxicam 15 mg daily. Nephrology was consulted for acute urate nephropathy, and he was treated with emergent hemodialysis. He tolerated therapy well and was discharged home after 2 nights in the hospital. Follow up labs a week after the admission showed a creatinine of 1.3 and uric acid of 7.7. His symptoms of fatigue and nausea resolved.

Discussion:
Chronic hepatitis C infection affects 2.7-3.9 million people in the United States. Most individuals are unaware they are infected. The CDC has recently recommended one time screening for hepatitis C in all individuals born between 1945 and 1965. As more individuals become aware of their infection through screening, more will desire treatment. Fortunately, there are multiple different drug classes under development for treatment of hepatitis C with the protease inhibitors telaprevir and boceprevir being recently approved. The American Association for the Study of Liver Diseases changed their guidelines to include a protease inhibitor in addition to the previously recommended regimen of peginterferon and ribavirin. The addition of telaprevir increases sustained viral response rate from 44% to 75%. With any new therapy there will be adverse events and side effects. During clinical trials, telaprevir was most frequently associated with rash and anemia that at times forced discontinuation of therapy. In addition, telaprevir is known to cause hyperuricemia in up to 73% of patients, with levels greater than 12.1 in 7% of patients. Despite elevated uric acid levels, less than 1% of patients experienced gout, and none experienced urate acid induced nephropathy. As treatment with telaprevir becomes more common, it is important to be aware of its adverse effect profile, and that urate acid nephropathy can occur after only 5 days of therapy.