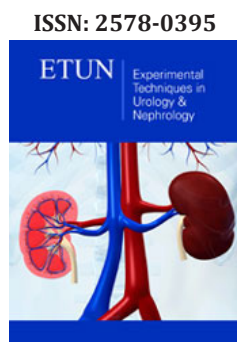


Case of Pure Atazanavir Renal Lithiasis

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Introduction

A case of Atazanavir-induced renal lithiasis is presented. Atazanavir Sulfate is an HIV protease inhibitor, which is currently widely used in these patients. Atazanavir is a substance that has low solubility in water for pH values greater than 6 (it is maximum at pH 1.9 and zero at pH 6.8). Thus, the presence of Atazanavir acicular crystals in urinary sediments of patients taking this drug, as well as renal problems, has been frequently described [1-5]. The presence of these crystals in calcium oxalate stones has also been described. However, there are very few descriptions of lithiasis formed mainly by Atazanavir, such as is presented in this article.

Material and Methods

A 56-year-old male patient, treated with Kivexa, Reyataz (Atazanavir) and Norvir, with CV <37 copies and CD4 453 cells/ul. The patient went to the emergency department for left renal colic with obstructive uropathy due to radiopaque lithiasis of 6mm at the level of the sacral ureter. He underwent a Ureterorenoscopy and lithiasic fragments were submitted for laboratory analysis [6-11]. The largest solid that was submitted for its study consisted of a small whole calculus of about 2mm of diameter, as well as of several fragments of inferior sizes.

Result

Examination by electronic microscopy showed that there were objects formed by acicular crystals of about 50um, which grew in parallel arrangements, forming very compact masses. Uniformly distributed and small crystalline elements of calcium oxalate monohydrate were identified as very minor elements. FTIR spectroscopy allowed to identify the major component as crystals of Atazanavir.

Conclusion

These structures in palisade of the fragments and the characteristics of the calculi formed, demonstrate that Atazanavir achieved a high and constant supersaturation during prolonged times, which can only be explained due to patient's pH was superior to 6 during long periods of time. Thus, urine acidification with regular urine pH, increased water intake, avoiding carbonated beverages, citrus consumption and vegetarian diets would be advisable in these cases.

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