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Development of hypocalcemia with telaprevir-based triple treatment in a case of genotype 1 chronic hepatitis C

To the Editor,

Hepatitis C virus (HCV) is a major public health problem and a leading cause of chronic liver disease. Telaprevir is a protease inhibitor used to treat chronic hepatitis C in combination with Peg-interferon (IFN)-α2a+ribavirin (PR) (1); however, it has numerous side effects (2). Here we present the case of a patient who developed hypocalcemia during telaprevir-based triple treatment. A 63-year-old woman was referred to our clinic in February 2013. Her medical history revealed a diagnosis of genotype 1 HCV in May 2009, which was treated with 180 µg/week Peg-IFN-α2a and 1000 mg/day ribavirin for 48 weeks. HCV RNA was negative at the end of therapy. The HCV RNA test became positive 6 months later (HCV RNA level: 611157 IU/mL). She had no smoking or drinking history.

Triple therapy (100 µg/week Peg-IFN-α2b, 1000 mg/day ribavirin, 3×750 mg/day telaprevir) was initiated. Pretreatment laboratory tests, including 1,25-OH_2-D3, calcium (Ca), and alkaline phosphatase, were within normal limits. Abdominal ultrasound was normal. HCV RNA was negative on week 4 with Ca, 7.1 mg/dL; albumin, 3.1 g/dL; Mg, 1.6; and p, 5.2 mg/dL. Oral Ca and vitamin D3 (Cal-D-Vita, Bayer Türk, Istanbul, Turkey) treatment was initiated. She presented to the emergency room (ER) on week 6 complaining of acral paresthesia and tingling. The results of the blood investigations while she was on the oral Ca+vitamin D3 treatment were as follows: albumin, 3.1 g/dL; Ca, 5.7 mg/dL; Mg, 1.35 mEq/L; and p, 5.5 mg/dL. She was readmitted to the ER during week 8 with hypocalcemia and related symptoms and was hospitalized. The laboratory test results were as follows: albumin, 3.1 mg/dL; Ca, 6.1 mg/dL; Mg, 1.45 mEq/L; and p, 5.1 mg/dL. Despite an intravenous (IV) Ca-gluconate (Calcium Picken Ampule, Adeka, Samsun, Turkey) infusion, the Ca levels remained less than <7 mg/dL. We stopped the triple therapy. After 3 days of IV Ca-gluconate infusion, the Ca levels began to increase (7.1 mg/dL) and the symptoms resolved. The patient was discharged with oral Ca+vitamin D3 treatment. The last blood test results were as follows: Ca, 8.7 mg/dL; p, 4.9 mg/dL; and albumin, 3.0 g/dL.

The patient did not have hypocalcemia or related symptoms during the previous PR treatment. We concluded that hypocalcemia developed after adding telaprevir to PR.

Although it is recommended to monitor serum Ca levels in the telaprevir product insert, there are no data on why this is recommended (2).

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2. PRODUCT MONOGRAPH PrINCIVEK® Telaprevir Tablets 375 mg Antiviral Agent Manufactured by: Vertex Pharmaceuticals Incorporated Distributed by: Vertex Pharmaceuticals (Canada) Incorporated 275 Armand-Frappier Boulevard Laval, Quebec H7V 4A7 Date of Revision: December 17, 2013 Submission Control (Web Access: http://pi.vrtx.com/files/canadapm_telaprevir_en.pdf)

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