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Bile acid cast nephropathy associated with acute hepatitis A

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Case Study : Acute kidney injury is well developed in advanced liver diseases, such as liver cirrhosis and acute hepatic failure. This acute renal dysfunction usually results from decrease of renal perfusion caused by hypovolemic condition. Severe jaundice may also contribute to acute kidney injury caused by bile acid or bilirubin. Now, we present a interesting case, bile acid cast nephropathy complicated by acute hepatitis A.

Case report : A 35-year-old male visited our emergent department with symptoms of nausea, abdominal discomfort, and oliguria. These symptoms and signs were developed abruptly recent several days ago, so he took a digestive medicine, however, these symptoms were aggravated more. He had no chronic diseases, such as diabetes and chronic hepatitis. His skin color was changed into yellowish on physical examination. His vital signs were stable on arrival. However, serum total bilirubin, direct bilirubin, creatinine were 10.29 mg/dL, 7.95 mg/dL, and 14.30 mg/dL. Immunoglobulin M, antibody for acute hepatitis A also showed positive result, however, anti-neutrophil cytoplasmic antibody, and complements were all within normal range. The abdomen computed tomography did not show specific findings. His uremic symptoms were aggravated more although an aggressive fluid therapy. His general condition was improved partially after hemodialysis, however, several clinical signs were still remained during four weeks. We underwent a renal biopsy. On pathologic result, the renal tubular lumens frequently contain dark pigment casts with foreign body reaction and calcification, and interstitium focally exhibits mononuclear cell infiltration and fibrosis (Fig. 1).

Discussion : In conclusion, bile acid cast can result in the acute kidney injury of patients with severe jaundice and hepatic failure. A direct bilirubin toxicity for renal tubules may contribute to this renal injury. We may carefully suggest that recovery of acute tubular necrosis can be delayed by the presence the tubular bile acid cast through this case.

Keywords : Acute kidney injury; Bile acid; Hepatitis A