

Third paper

Stone expulsion rate of small distal ureteric calculi could be predicted with plasma C-reactive protein

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Abstract

Ureteral stones tend to induce inflammatory lesions in the ureteric wall; such lesions may interfere with the probability of spontaneous ureteral stone passage. Plasma C-reactive protein (CRP) is an acute-phase protein whose serum level is increases in response to inflammation, as in ureteric inflammatory disorders induced by stone impaction. Patients with distal ureteric stones were included in this study. All patients were subjected to history taking KUB, urinary tract ultrasound, Non-contrast CT (NC-CTKUB) scan, and plasma CRP estimation. All patients received medical expulsive therapy. Patients were examined weekly using KUB and urinary tract ultrasound until spontaneous stone passage or intervention after 4 weeks. Patients who failed to expel the stone within 4 weeks underwent ureteroscopy. Spontaneous stone expulsion within 4 weeks was recorded in 129 patients (54.9 %), while 106 patients (45.1 %) underwent ureteroscopy for stone extraction. Patients with spontaneous stone expulsion had significantly lower serum CRP levels (16.45 ± 2.58) than those who failed to pass the stone spontaneously (39.67 ± 6.30). Receiver operator characteristic curve is used to determine CRP cut-off point for prediction of spontaneous ureteric stone expulsion. A cut-off point of 21.9 mg/L for CRP yielded appeared optimal for prediction of spontaneous ureteric stone expulsion. Medical expulsive therapy success for management of small distal ureteric calculi could be predicted with plasma CRP. Patients with CRP >21.9 mg/L have low stone expulsion rate and should directly be subjected for an immediate, minimally invasive ureteroscopy.