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LETTER TO THE EDITOR

Re: Re: The efficacy and safety of ureteroscopy for ureteral calculi in pregnancy: our experience in 32 patients

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We read 'Re: The efficacy and safety of ureteroscopy for ureteral calculi in pregnancy: our experience in 32 patients' [1] with great interest. The evaluation of pregnant women suspected to have urolithiasis starts with conventional ultrasonography (US) and is followed by intravenous pyelogram in a limited setting when necessary. Non-contrast CT is rarely used because of the higher dose of radiation. The use of MR is restricted and may define the level of stone as a filling defect [2].

The diagnosis of urinary stones in pregnancy is complicated because of physiologic and hemodynamic changes in pregnancy. Due to potential adverse effects of radiation exposure to the fetus, conventional US is the first-line imaging tool for urolithiasis in pregnant patients, but it is limited in the diagnosis of obstructions and it may not actually show the stones. In contrast to conventional renal ultrasonography, the use of Doppler US (DUS) has produced excellent results in the diagnosis of ureteric obstructions in pregnant women. Based on waveform tracings, a renal resistive index (RI) value is calculated, providing improved sensitivity and specificity for differentiating obstructed from non-obstructed dilated collecting systems [3]. To avoid radiation exposure, we examined all patients with conventional grey-scale US followed by DUS with a calculation of the intra-renal RI in both kidneys before ureteroscopic procedure. The first results using DUS are highly promising, because the measurement of RI is useful for the timing of intervention [4]. The study included pregnant patients with unilateral symptomatic persistent hydronephrosis (group 1) and pregnant patients with physiological hydronephrosis of pregnancy (group 2). There were no statistical differences between the two groups in terms of age, mean gestational period, or number of pregnancies, but the RI was significantly higher in group 1 (0.68 ± 0.047) than in group 2 (0.60 ± 0.047) ($p < 0.001$).

Physiologic dilatation of the collecting system in pregnancy begins at 6–10 weeks of gestation and persists until 4–6 weeks following delivery. Although ureteral dilation is rarely needed during pregnancy, it is logical to consider this procedure on an individual basis. In addition, passing through the orifice is easy while performing URS in pregnant patients due to physiologic dilatation of the ureter and collecting system. In some studies, ureteroscopy was performed under direct vision without dilating the ureter orifice in pregnant women [5–7]. In our study, we performed ureteral dilatation on five (15.6 %) of the patients with balloon dilation.

A JJ stent was inserted in patients with apparent edema of the ureter, large residual stones, stone impaction, ureteral laceration, or perforation during the procedure. The suitable position of the JJ stent in the renal pelvis was confirmed under ureteroscopic vision or using US during the process. We did not use any fluoroscopic imaging modalities.

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