Renal abscess post ureteroscopic lithotripsy

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1. Introduction

Ureteroscopy, both flexible and semirigid (f- and s-URS, respectively), is a popular urological procedure, not only in urolithiasis, but also in other diagnostic and therapeutic procedures, such as upper urinary tract tumors, strictures, and other conditions.1 With the introduction of new small caliber equipment and advancements in both F- and s-URS equipment, it has become a safe and efficient technique that is widely used in our practice.2

Complications can occur after the surgery ranging from minor to major and life threatening. According to the European Association of Urology (EAU) guidelines, ureteroscopic complications can reach up to 25% and are commonly classified as Clavien-Dindo grade 1 or 2.2 In the present study, we present a case of renal abscess as a rare, post-ureteroscopic complication.

2. Case report

The patient was a 65-year-old woman, who was a known case of diabetes mellitus and had a history of stones and previous multiple, bilateral ureteroscopic lithotripsy. The last procedure occurred at another institution five months previous to presentation at our facility. A urine culture was negative, and pre-operative computerized tomography (CT) scan showed a 2 cm stone in the right renal pelvis. A flexible ureteroscopy was planned, and a holmium (Ho)-YAG laser was used. The surgery lasted for 2 h with complete stone fragmentation. Retrograde pyelography done with no extravasation and a double J (DJ) stent was inserted at the conclusion of the procedure. The patient tolerated the procedure well and was discharged to home on the same day. Prophylactic antibiotics were prescribed upon discharge.

One week post-procedure, the patient presented to the emergency department complaining of fever and right flank pain after which she was re-hospitalized. An abdominal CT scan was done and showed a 7 cm right renal abscess (Fig. 1). Broad-spectrum antibiotics were started. Percutaneous drainage of the abscess was accomplished, and the patient was re-imaged. Complete resolution of the abscess was documented (Fig. 2). The patient completed the course of antibiotics, and the DJ stent was removed before discharge. At the last follow-up, she was in good condition.

3. Discussion

Although ureteroscopy is a very widely used diagnostic and treatment modality in urology, some complications can affect a patient’s morbidity and mortality. A recent systematic literature review highlights the major complications following the ureteroscopy.1 Twelve out of 75 patients were found to have developed major complications (Clavien-Dindo 3b or 4 grades), eight after f-URS and the remaining four after s-URS. Most of the cases developed kidney injury. One developed an arteriovenous fistula, two ureteric avulsion, and one septic shock. Six of them required open radical nephrectomy.

Subcapsular and perinephric hematomas are common complications following shock wave lithotripsy (SWL). Subcapsular hematomas post-URS were reported at a rate of 0.36% in a recent case series.1

Keywords: Renal abscess Ureteroscopy Lithotripsy

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Abstract

With the advancement of ureteroscopic equipment, it has become a safe and efficient technique that is widely used in our practice for wide variety of diseases. Here we present a 65-years old patient with 2cm right renal pelvic stone, who underwent uneventful right ureteroscopic lithotripsy. She developed symptomatic right renal abscess after one week time, which was treated with antibiotics and drainage successfully. Although ureteroscopic lithotripsy is safe and efficient technique in the management of urolithiasis, careful patient monitoring postoperatively is indicated as minor and major adverse events might be encountered.
Although rare, this type of hematoma can develop after URS, and once it occurs can be a serious complication.\textsuperscript{1} A case of liver abscess was reported following semirigid ureteroscopic lithotripsy for right mid ureteric stone, and reason was attributed to the manual irrigation and increase in renal pressure.\textsuperscript{2} In the present study, our patient developed a symptomatic renal abscess that required only percutaneous drainage and had a successful outcome. Risk factors for abscess development is obstruction and being immunocompromised.\textsuperscript{3} Therefore, physicians should pay attention to and stay vigilant with respect to their patients’ complaints.

4. Conclusion

More attention is needed with respect to ureteroscopic lithotripsy as it may be complicated by minor to major adverse events and could progress to a life-threatening condition. A high index of suspicion must be maintained for immunocompromised patients.

Declaration of competing interest

None.

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