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Case report

The Appearance of Medullary Sponge Kidney on Retrograde Intrarenal Surgery: Video Article

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HIGHLIGHTS

- The medullary sponge kidney (MSK) is one of the disorders of kidney development.
- MSK is observed in 12-20% of the urinary calculi population.
- In this video article, we showed two sessions of retrograde intrarenal surgery by the endoscopic appearance of MSK during laser lithotripsy.

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ABSTRACT

Introduction
The medullary sponge kidney (MSK) is one of the disorders of kidney development which is known by the cystic dilation of pyelocaliceal system and diffuse precalyceal ectasias. One of the usual complications of this disease is stone formation.

Case presentation
In this video article, the study showed two sessions of retrograde intrarenal surgery by endoscopic appearance of MSK during laser lithotripsy. Operative times in the first and second session were 100 min and 80 min, respectively. At the 3-month follow-up visit, both kidneys were at normal without obvious stone in kidney-ureter-bladder X-ray.

Conclusions
In this video, we presented the endoscopic appearance of MSK during laser lithotripsy and the follow-up pyeloscopy.

Keywords: Medullary Sponge Kidney; Ureteroscopy; Laser; Lithotripsy

Introduction

The medullary sponge kidney (MSK) is a kidney development disorder that is known by the cystic dilation of the pyelocalyceal system and diffuse pelvicalyceal ectasias. These dilations which are called “stone nests” are usually between 1 and 7 mm in size, often contain small stones. MSK is a rare disease, with a prevalence of 5 in 10000 people. Based on the evidence, MSK is observed in 12-20% of the urinary calculi population. On the other hand, over 70% of MSK patients get involved in nephrolithiasis. This disease is naturally bilateral and involves multiple kidney pyramids. The patients are generally asymptomatic, and the diagnosis is mainly after the occurrence of complications, like loss of urine concentration, pyelonephritis, or renal tubes acidosis. The most usual symptoms included renal colic, hematuria, or fever (1-3). This article aims to show the pyeloscopic appearance of this disease during retrograde intrarenal surgery.

Case presentation

This video article is about a 45-year-old man, presented with right flank pain, hematuria, and recurrent urinary infections. The procedure was started with ureteral access sheet placement with our previous reported zero radiation technique (4). The operation was started by using a semi-

rigid 9.8 Fr ureteroscope (R. WOLF, Vernon Hills, IL), a guidewire was inserted in the kidney pelvis under direct vision as the safety wire. An access sheath (36 cm, Navigator 11.13 F, Boston Scientific, Natick, MA) without the obturator was passed over the ureteroscope, and the operation was continued by a safety wire. Access sheet was inserted under direct endoscopic vision. Then a guidewire was inserted into the kidney pelvis and the flexible ureteroscope was placed to the upper ureter. Our first point was superior calyx, then lithotripsy was done through 200-micron Holmium laser fibers (EMS holmium laser lithotripter, 0.8–1.2 J, 8–12 W). We performed the dusting and fragmentation technique rather than fragmentation. The use of an irrigation pump (WOLF) would allow us to have better vision and continuous irrigation which was set on 110–145 mmHg. Due to the length of the first session, we planned to have another one. So, we put a double-j stent and terminated the procedure. The second session has the same manner, and at the end of that, the systematic pyeloscopy was performed to make sure that all calyxes were cleaned. Operative times in the first and second session were 100 min and 80 min, respectively. The patient had a straight recovery and was discharged on the second postoperative day. At the 3-month follow-up visit, both kidneys were at normal without obvious stone in kidney ureter bladder X-ray.

Conclusions

In this video, we presented the endoscopic appearance of MSK during laser lithotripsy and the follow-up pyeloscopy

Authors' contributions

Not applicable.

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Conflict of interest

The author declares that there is no conflict of interest.

Funding

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Ethical statement

Written informed consent was obtained from the patient for the publication of his case.

Data availability

Data will be provided on request.

Abbreviations

MSK Medullary sponge kidney

References

1. Geavlete P, Nita G, Alexandrescu E, Geavlete B. The impact of modern endourological techniques in the treatment of a century old disease-Medullary sponge kidney with associated nephrolithiasis. Journal of medicine and life. 2013;6(4):482.
2. Garfield K, Leslie SW. Medullary Sponge Kidney. 2017.
3. Imam TH, Patail H, Patail H. Medullary Sponge Kidney: Current Perspectives. Int J Nephrol Renovasc Dis. 2019;12:213-8.
4. Aghamir SMK, Salavati A. Endovisually guided zero radiation ureteral access sheath placement during ureterorenoscopy. Minim Invasive Ther Allied Technol. 2018;27(3):143-7.

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