

# MEDULLARY SPONGE KIDNEY (MSK) AND PERSISTENT HEMATURIA: COEXISTENCE OR ASSOCIATION? CASE REPORT

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## INTRODUCTION

Medullary Sponge Kidney (MSK) is a distal nephron malformation characterized by the dilation of the medullary and papillary segments of the collecting ducts. Its prevalence is less than 1%, with a slightly higher incidence among women than men. MSK is associated with nephrolithiasis, intermittent hematuria, and urinary tract infections and it may also co-occur with other renal malformations. We present a case of a patient with MSK experiencing persistent macroscopic hematuria.

## METHODS

A 33-year-old male patient presented with persistent macroscopic hematuria for a duration of 9 years. It was not accompanied by other urinary symptoms but was associated with severe anemia, necessitating repeated blood transfusions. The patient underwent a renal ultrasound, CT scan, and arteriography, all of which yielded normal results. Two cystoscopies demonstrated bilateral hematuria without lesion in the bladder. The patient exhibited a normal serum creatinine level, mild proteinuria, and a urinary sediment containing isomorphic red blood cells.

Excretory urography was conducted due to the persistent hematuria, revealing increased density in the papillary region, pinpoint images compatible with cysts, and irregularities in the calyceal concavity within certain areas of the collecting system, consistent with the diagnosis of MSK.

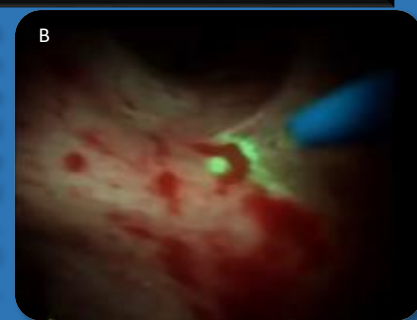


**FIGURE 1.** Excretory urography A: Excretory urography. B: Excretory urography. Red circles indicate the characteristic image in brush stroke

## RESULTS



Following the diagnosis of MSK, a cystoscopy was performed, revealing frank hematuria emanating from the right ureteral meatus and mild hematuria from the left ureteral meatus. Subsequently, a flexible bilateral ureteroscopy was carried out, revealing diffuse erythema and petechial hemorrhaging in the renal pelvis and calyces from both kidneys. Electrocoagulation with a Holmium laser at 1 J and 10 Hz was performed on the major bleeding sites, successfully resolving the hematuria.



While the characteristic image of papillary varices was not evident during endoscopy in this case, the possibility that these bleeding sites may be related to papillary varices cannot be ruled out, as they have been associated with various other lesions, including diffuse petechiae, erythema, and hyperemia

**FIGURE 2.** A: Right ureteral meatus (frank hematuria). B: calyces from right kidney with petechial hemorrhaging in the renal pelvis, Electrocoagulation with laser.

## CONCLUSION

MSK is an underdiagnosed condition, possibly due to the shift from urography to tomography for the diagnosis of renal diseases. Given that medullary sponge kidney is associated with other renal malformations, when the clinical presentation is not typical another renal lesions should be looked for.

Although the literature on this subject is limited, papillary varicosities are recognized as a common cause of chronic hematuria. It is worth noting the atypical presentation in this patient, as macroscopic hematuria is often described as neither persistent nor severe in most cases.