Double J ureteral stent displaced through the right ventricle

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Abstract

We report a 59-year old patient with a double J ureteral catheter displaced out of the ureter through the inferior vena cava and right ventricle. The catheter was removed successfully under cardiopulmonary bypass.

Keywords: Double J stent • Migration

INTRODUCTION

Double J catheters are used for maintaining the urine flow from kidneys to bladder due to ureteral stenosis caused by intrinsic or extrinsic pathologies [1]. They are usually implanted temporarily for 3–6 months. The procedure is routinely performed under cystoscopic or scopic guidance. Rarely may these catheters be displaced through the vena cava into the heart [2–4]. In this case report, we present the successful treatment of displacement of a double J catheter into the right ventricle under cardiopulmonary bypass.

Case

A 59-year old female patient was treated with a ureteral stent due to a ureteral stone 3 years ago. It was understood that no cystoscopy was used as a guidance, and that massive hematuria occurred during implantation. Moreover, the patient was not in compliance with the routine follow-up protocols. She was referred to our clinic from a different urology clinic with a diagnosis of possible stent migration.

A standard median sternotomy and central cannulation was performed with the bicalval technique. On the beating heart, right atriotomy was performed and the catheter was exposed (Fig. 2). Adhesions between the catheter and leaflets of the tricuspid valve as well as atrio caval junction were determined. They were divided with sharp dissection. The catheter was removed from chordal...
structures and taken out totally. Intraoperative echocardiographic examination after the termination of cardiopulmonary bypass revealed no cardiac problem. The retroperitoneum was free of any bleeding or haematoma on ultrasound examination.

Postoperative course was uneventful, and the patient was discharged on the postoperative day 4.

**CONCLUSION**

We conclude that the catheter was improperly implanted at the first procedure and the stent migrated to the right ventricle through the vena cava. Inappropriate procedural protocol without using cystoscopy guidance might have contributed to this complication. Moreover, the diagnosis was possibly delayed due to incomplete follow-up.

Imprecise placement of ureteral catheter may result in malposition or displacement leading to undesirable vascular or cardiac extensions. The catheter in our patient was partially in the ureter and partially in the vena cava and right ventricle. Thus a multidisciplinary approach was decided. The removal of a ureteral portion in an endoscopic fashion and removal of the rest under cardiopulmonary bypass may provide a safe option for the treatment.

**Conflict of interest:** none declared.

**REFERENCES**