LATE MIGRATION OF A TOOTHPICK INTO THE BLADDER: INITIAL PRESENTATION WITH UROSEPSIS AND HYDRONEPHROSIS

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Summary.- OBJECTIVE: Migration of objects into the urinary tract from the digestive tract has been described. Our objective is to report the case of a patient with urosepsis and late migration of toothpick from the gastrointestinal tract into the bladder.

METHODS: A 78 y/o male patient with urosepsis and hydronephrosis was admitted. The initial suspected etiological cause was obstructive ureteral lithiasis. CT scan showed hydronephrosis and a possible ureteral stone. However, a femoral catheter was in place near the toothpick location, which jeopardized the detection of the foreign body. Antibiotic therapy and placement of a ureteral stent were performed. Once infection subsided, ureteroscopy was carried out showing a slight extrinsic compression of the distal ureter. The patient was readmitted with urinary infection. New imaging studies showed a foreign body in the bladder, which was not evident previously. Cystoscopy showed a toothpick penetrating the bladder and it was removed.

RESULTS: Retrospectively, we interpreted that the foreign body perforated the gastrointestinal tract, migrated to the retroperitoneum and caused upper urinary tract obstruction by inflammatory reaction in the periureteral tissues. Once infection was solved, ureteral manipulation by ureteroscopy may have caused the toothpick migration into the bladder.

CONCLUSIONS: Migration of foreign bodies from the gastrointestinal tract into the bladder occurs rarely. They clinically present as a complicated urinary tract infection. Imaging studies make the diagnosis, and a high level of suspicion is required.

Keywords: Foreign body. Bladder. Cystoscopy.

Resumen.- OBJETIVO: La migración de cuerpos extraños que son ingeridos desde el aparato digestivo y fistulizados a vías urinarias, es poco frecuente. Nuestro objetivo es presentar un caso de un paciente con urosepsis y migración tardía de un mondadientes a vejiga.

MÉTODO: Paciente masculino de 78 años quien ingresó por urosepsis, presentado ureterohidronefrrosis derecha inicialmente diagnosticado como ureterolitisis obstructiva. En las imágenes de tomografía la presencia del catéter femoral confluya con la cercanías del cuerpo extraño y permitió que se confundiera con litiasis urinaria y enmascarara el proceso. Se manejó con antibioticoterapia y colocación de catéter ureteral. La ureteroscopia posterior evidenció compresión extrínseca sobre uréter distal sin presencia de litiasis ni lesiones intravesicales. Posteriormente el paciente presenta fiebre y en los nuevos estudios radiológicos reportan un cuerpo extraño intravesical, no evidenciado en estudios previos. La uretrocistoscopia evidencia un mondadientes que se introduce en vejiga y se extrae endoscópicamente.

RESULTADOS: Retrospectivamente se interpreta que el cuerpo extraño perforó tubo digestivo, migró hacia retroperitoneo y provocó el proceso obstructivo por inflamación periureteral, y condicionó la sepsis. Posteriormente, al su-
INTRODUCTION

The presence of foreign bodies in the bladder are usually due to direct introduction by the patient himself, or accidentally or iatrogenically. The migration of objects from the gastrointestinal tract, which are ingested and then fistulize to the urinary tract, is another uncommon cause (1). Toothpicks are relatively sharp objects that can cause intestinal perforation if accidentally swallowed (2). There are very few reported cases of toothpick migration into the urinary tract (2,3). Some of these cases present hydronephrosis and renal colic as a result of an inflammatory process (2). Other authors have reported foreign bodies migrating from the bowel into the bladder, causing hematuria and abdominal pain 3. We report a case of a patient who presented with hydronephrosis and urosepsis as a result of migration of a toothpick from the GI tract into the bladder.

CASE REPORT

The patient is a 78 years white male with a history of rigid-akinetic syndrome (Parkinson disease), treated with levodopa / carbidopa / entacapone, locally advanced prostate cancer treated with Leuprolide every six months, chronic constipation and abdominal aortic aneurysm whom two days before admission to the emergency room presented malaise, lower abdominal pain and hyperthermia with chills. He was then transferred to ICU because of urinary tract infection and septic shock. CT scan showed right hydronephrosis and a calcium density image, adjacent to the right femoral catheter, which was thought to be a ureteral stone (Figure 1). Kidney drainage was performed by placing a double-J ureteral stent and broad-spectrum antibiotic was administrated (piperacillin-tazobactam) growing a susceptible E. Coli in blood and urine. Once infection was controlled, rigid cystoscopy, retrograde pyelography and semi-rigid ureteroscopy were performed, only finding a slight ureteral extrinsic compression at the iliac vessels level, which was easily surpassed by the scope. The double J stent was withdrawn.

The patient was discharged from the Hospital, and two days later he returned to the emergency room with malaise, high fever, urinary frequency, urgent incontinence. He was found to have a high white blood cells count and a pathological urinary analysis. KUB was normal, and a bladder ultrasound showed
an intravesical echogenic linear image (Figure 2). A noncontrast CT scan also reported a foreign body which travelled through the bladder wall. A cystoscopy was performed and toothpick like foreign body in the bladder was observed (Figure 3). Half of it was inserted in the bladder from the upper right wall with papillary edema surrounding it. Endoscopic removal of the foreign body was performed. Foley catheter was left in place for two days. The patient was discharged in good conditions. After a follow-up of three months the patient remained asymptomatic.

**DISCUSSION**

Ingestion of sharp foreign bodies, as toothpicks, can cause different clinical manifestations. Mainly, patients present symptoms as abdominal pain, fever and gastrointestinal bleeding, because of perforation into the digestive tract. The duodenum is the most commonly site and the sigmoid in second place. However, sometimes they can produce no GI symptoms but may present with symptoms arising from the migration of the swallowed foreign body to adjacent organs such as pleura, pericardium, ureter or bladder (2,3). Most reported cases occurred in adult males with a mean age of 52 years. Only 12% of them revealed the ingestion of a foreign body like a toothpick. Less than a quarter of patients recall having eaten food that had toothpicks on their preparation, but they did not ingested them consciously. The patient in this case report is an elderly man (78yr) with motility limitation because of his Parkinson’s disease, but has no evidence of psychiatric illness. Furthermore, the patient never reported ingestion of toothpicks. He was initially admitted with a urinary tract sepsis, interpreted as an obstructive ureteral lithiasis. CT scan showed a hydronephrosis and a possible ureteral stone. However, a femoral catheter was in place near the toothpick location, which jeopardized the detection of the foreign body. Li & Ender reported that imaging studies are not as effective for the diagnosis of toothpick ingestion (3). Retrospectively, we interpreted that the foreign body perforated the gastrointestinal tract, migrated to the retroperitoneum and caused urinary obstructive process by inflammatory reaction in peri-ureteral tissues. Finally, the patient presented additional complications with sepsis. Once the infection was resolved, ureteral manipulation by ureteroscopy may have caused the toothpick migration into the bladder.

The endoscopic removal of foreign bodies present in the bladder is the standard of care, being a physiological and minimally invasive procedure (1-4). In our patient, the foreign body was successfully removed by cystoscopy, with a satisfactory outcome.

**CONCLUSION**

Migration of foreign bodies from the gastrointestinal tract into the bladder occurs, although rarely. It is clinically manifested as a complicated urinary tract infection. Imaging studies makes the diagnosis, cystoscopy and a high level of suspicion is required. The endoscopic removal is the treatment of choice, which is translated into rapid improvement.

**REFERENCES AND RECOMMENDED READINGS**

(*of special interest, **of outstanding interest)

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