MALFUNCTION OF TENCKHOFF CATHETER DUE TO A RARE KINK

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ABSTRACT

A case of sudden malfunction of Tenckhoff Catheter in a patient undergoing continuous ambulatory peritoneal dialysis (CAPD) treatment is reported. Upon laparotomy, the catheter was found to form a knob inside the peritoneal cavity. The report emphasised on the simple but effective diagnostic value of abdominal X-ray and the importance of care of the bowel motion in a patient on CAPD.

Key words: continuous ambulatory peritoneal dialysis, Tenckhoff catheter, catheter displacement.

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INTRODUCTION

Continuous ambulatory peritoneal dialysis has been widely used as an alternative to hemodialysis for treatment of end stage renal failure since 1977 (1). The implantation of a silastic Tenckhoff catheter is a relatively simple procedure. Catheter malfunction may present as sudden obstruction of flow of dialysate and, not uncommonly, occurs early at the commencement of peritoneal dialysis. The common causes of catheter malfunction include: (a) catheter encasement by infected peritoneum, (b) catheter malposition due to poor implantation technique, (c) catheter entanglement in the omentum or displacement due to active peristalsis, (d) catheter obstruction by incarceration of tissue (2). In this communication, we report an uncommon presentation of catheter blockage in a patient undergoing CAPD treatment.

CASE REPORT

A 46 year old Chinese woman, with end stage renal failure, had a Tenckhoff catheter inserted in February 1987 for continuous ambulatory peritoneal dialysis. She was obese and the abdomen was pendulous. Initially, she was put on a regimen of three exchanges per day with 2-litre 1.5% dextrose dialysate. At the 5th week after the catheter implantation, she complained of constipation. Oral laxatives and cathartic suppository were given for one week and yet the bowel motion was not satisfactory. She then suddenly developed a cessation of outflow of dialysate from the Tenckhoff catheter. There was no associated abdominal pain or fever. Heparinised saline was used to flush the catheter but there was no free flow of saline or dialysate from the catheter. Abdominal X-ray revealed that the catheter was coiled up as a knob in the abdomen and was displaced out of the pelvis (Fig. 1). A guide wire was inserted for manipulation but the guide wire failed to pass beyond the kink. Eventually, the catheter was revised under local anaesthesia and a true knob of the Tenckhoff catheter was confirmed upon laparotomy.

COMMENT

Displacement of the peritoneal catheter is a well known cause of catheter malfunction in peritoneal dialysis. In a 4 year period follow up of 50 patients undergoing CAPD in Missouri, (3) there were only five cases of catheter displacement which were confirmed by radiological examination. Previous experience suggests that genuine catheter obstruction is rare and failure to drain the dialysate usually implies a displacement or omental wrapping of the catheter. The coiling of catheter in our patient is partially attributed to her roomy abdomen and, perhaps, related to constipation leading to hypermotility of the bowel. As constipation is not an uncommon complaint from uremic patients who are maintained on aluminium hydroxide as a phosphate binder, careful attention to bowel motion is important in order to avoid some of the mechanical problems with the peritoneal catheter. Although Oreopoulos and Khanna (4) have suggested the use of flexible spiral wire in attempting to decoil and reposition the obstructed catheter, this has not been found to be universally successful as shown in our patient. With kinking or knob formation as experienced in our patient, a surgical revision should be performed immediately.

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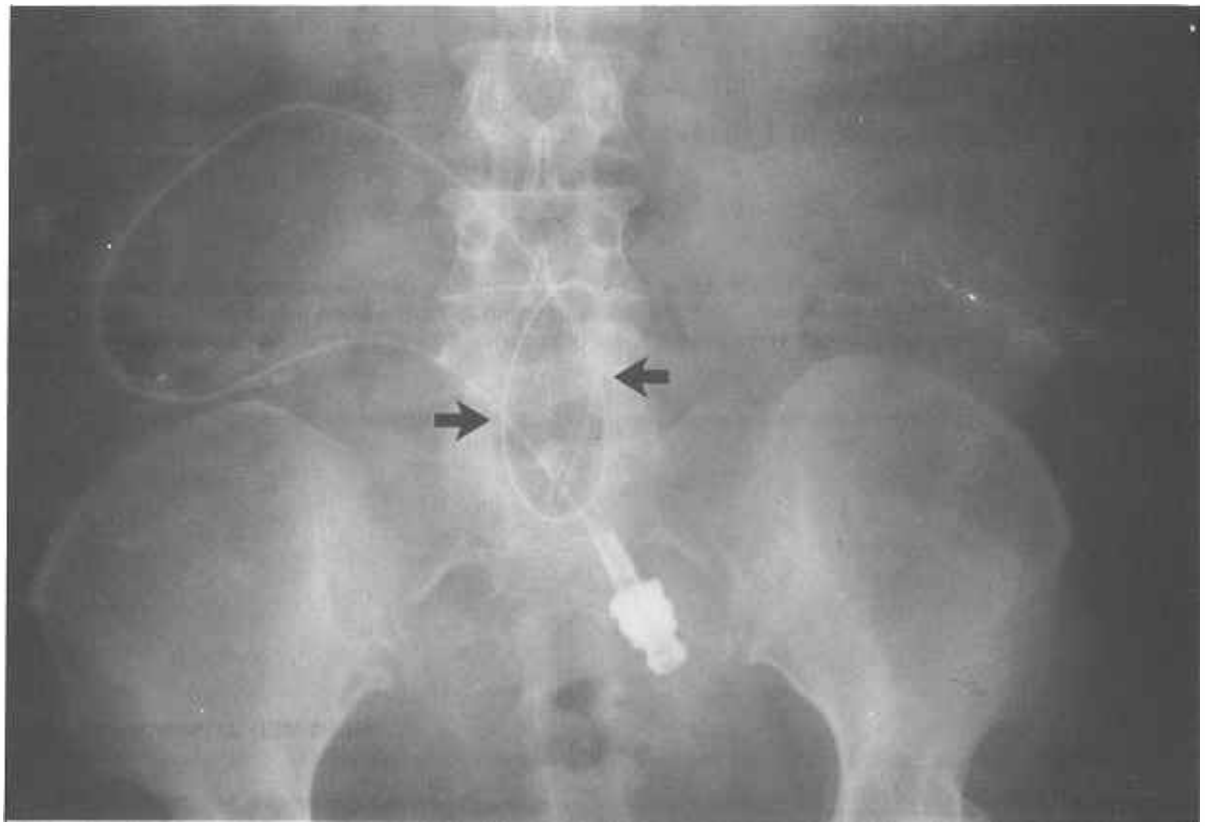

Figure 1: Abdominal X-ray of the patient showing knob formation and kinking of the catheter (arrows).

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