

MemoryTM serves us well in China

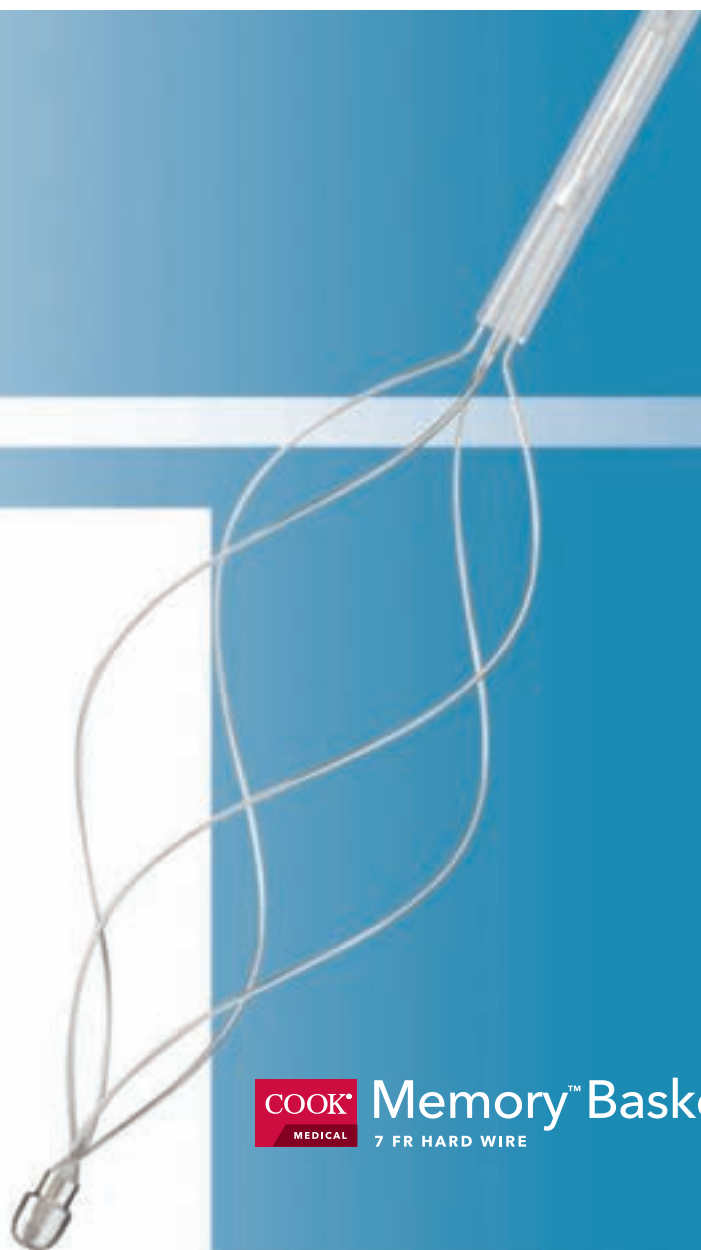
A CASE REPORT

Since our ERCP practice started in 1984, we have gradually built up an accumulation of experience and understanding along with a consistent increase in annual procedure numbers. At the same time, we feel strongly that procedural success rates and safety have a close correlation with the enhancement of design and quality of endoscopes as well as accessories. The MemoryTM Basket, 7 FR Hard Wire (MWB), produced by Cook Medical, is one of our favorites among a range of extraction device options.

While the CBD stone is a major indication of ERCP, extraction of stones plays an ultimate and essential role during the procedure after a sphincterotomy. Common extraction baskets usually handle well the removal of a single or a few small stones. However, most of our patients in China often show the presence of common bile duct dilation with a filling defect and piling of numerous stones or biliary sludge. Moreover, some patients even have a mass of intrahepatic stones. In such cases, it is usually difficult for a common basket to expand and pass across the stones. Instead, the extended basket can become distorted or bent and fail to capture the stones. For instance, the wire of one competitive basket may be too floppy to fully expand, while that of a second competitor's basket is too rigid, with a sharp tip that is likely to injure the bile duct. By using the Memory Basket with spiral wires, we can rotate the handle to drive the distal end spirally forward. In addition, it is observed that sometimes the basket goes across the stones even more easily if we extend only 1/2 or 1/3 of the basket out of the sheath. Thanks to its wire, which has sufficient strength and good shape retention, the basket has an extra forward force and extraordinary expansion



The First People's Hospital of Hangzhou, Zhejiang - One of the most important ERCP training centers in China, completing over 1,500 ERCP cases annually.



MemoryTM Basket
7 FR HARD WIRE



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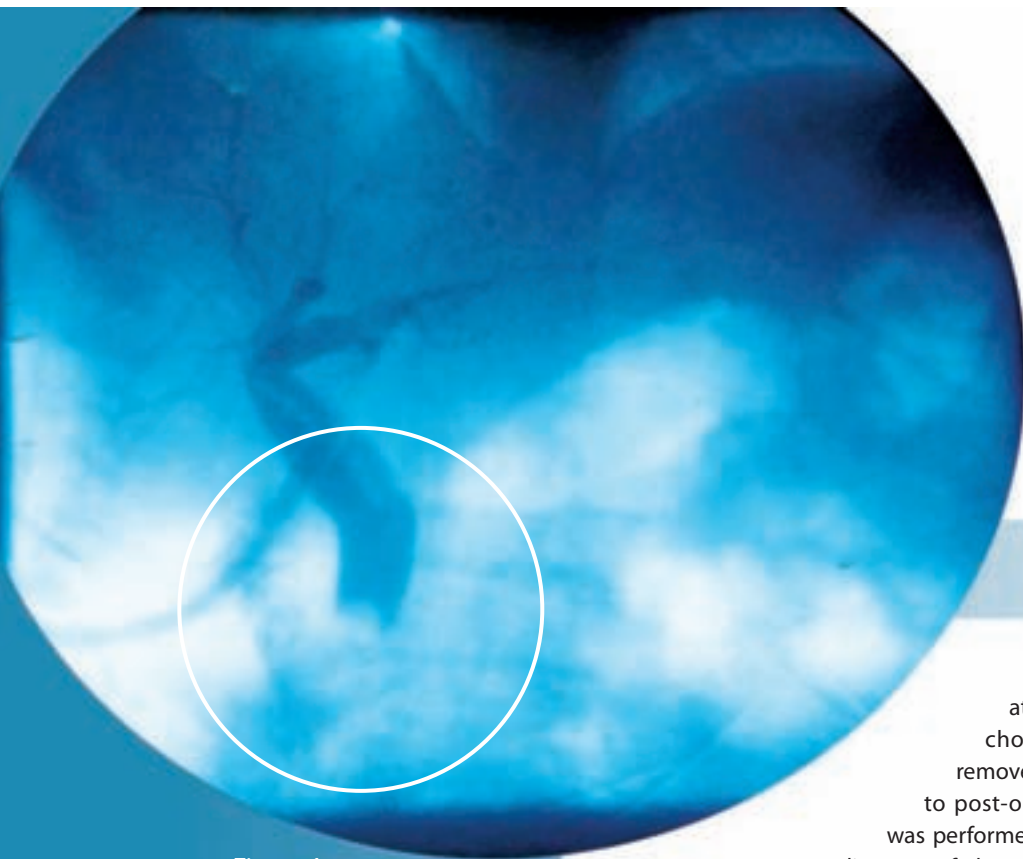


Figure 1
T-tube cholangiography reveals image characteristics as a convex cup edge in lower part of CBD, and contrast medium fails to flow into enteric cavity.

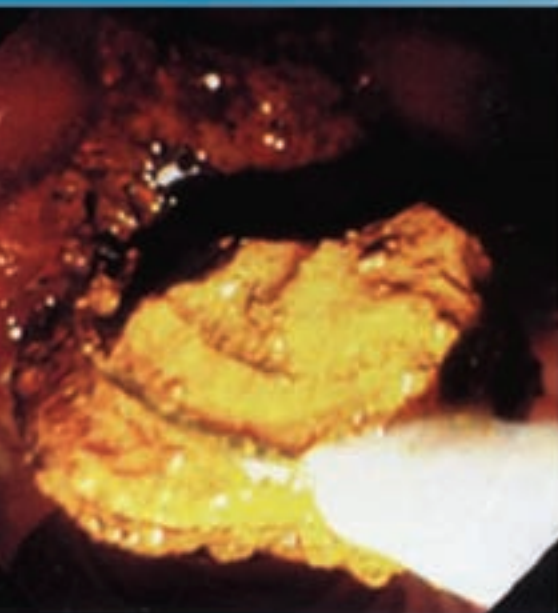


Figure 2
After dislodging the stone, the papilla was dilated and the stone was successfully extracted.

capability to easily trap stones with less likelihood of injury to the dissected papilla and inner wall of the bile duct when extended. The distal end of the basket has a short, straight and rigid segment, which together with adjustments in endoscope orientation, aids in selectively entering bilateral intrahepatic bile ducts as needed. The Memory Basket dimensions are 3×6 cm and 2×4 cm, with the former being more frequently used in our experience.

Case Report

A 75-year-old patient underwent surgery in May 2009 at a local hospital due to acute obstructive suppurative cholangitis (AOSC). Choledochotomy was performed to remove stones and a T-tube was deployed for drainage. Prior to post-operative extubation, routine T-tube cholangiography was performed and revealed incarceration of a residual stone with a diameter of about 1 cm in the lower part of common bile duct, showing image characteristics as a convex cup edge. Contrast medium failed to flow into the enteric cavity. After two failed attempts of stone removal by choledochoscope, the patient was referred to our hospital. Repeated T-tube cholangiography demonstrated the same signs as before. (See Fig. 1)

Routine ERCP was performed with a successful standard cannulation. However, repeated pushing forward of the wire guide against the stone resulted in the tip of the wire guide returning to the papillary opening. After sphincterotomy, we tried again to dislodge the stone by using an ERCP catheter with a preloaded wire guide, but again failed to push the stone up the duct. Though one of the competitive baskets has a rigid outer sheath with good pushability, its sharp tip makes us reluctant to use it when considering the risk of bile duct perforation. Initially, we used a second competitor's basket, first holding it out against the stone, and then extending the basket out of the sheath. However, the basket wires bent back without dislodging the stone. After we changed to a Memory Basket (MWB-3×6), the stone was successfully pushed upward to the middle segment of the dilated common bile duct when we extended the basket wires abruptly. After dilation of the papillary opening to one cm, the stone was successfully extracted by the basket. (See Fig. 2)

This case features a post-operative residual stone with incarceration. Two following attempts at stone removal by choledochoscope might have pushed the stone to a narrow lower segment of the CBD, resulting in an even tighter incarceration and more difficulties in lifting and freeing the stone during subsequent ERCP. An initial attempt at stone dislodgement with a competitor's basket was unsuccessful, with the basket simply bending back when being extended against the stone. This may have been due to the baskets thin wire multifilament composition and the low pushability of its soft sheath. However, benefiting from the great catheter pushability and atraumatic blunt tip design of the Memory Basket, we eventually succeeded in extracting the stone. During the essential attempt of pushing the stone up the duct, the monofilament spiral wire was able to drive the incarcerated stone ahead once it had loosened slightly.