Successful treatment of an impacted lithotripter basket in the common bile duct with intracorporeal electrohydraulic lithotripsy

A 62-year-old woman with hypothyroidism and hypertension presented to an outside hospital with abdominal pain. She was found on her initial workup to have choledocholithiasis and was transferred to our institution for endoscopic retrograde cholangiopancreatography (ERCP). The cholangiogram demonstrated common bile duct (CBD) dilatation, with right and left hepatic duct dilatation (Fig. 1a). When mechanical lithotripsy to break up the stone was attempted, the stone and basket became impacted in the distal CBD during extraction (Fig. 1b). An emergency lithotripter (Olympus America, Center Valley, Pennsylvania, USA) was used to release the basket from around the stone, but the
device broke owing to a mechanical mal-
function and the wires of the basket were 
severed near the handle and sheath. Di-
rect cholangioscopy was then performed 
with electrohydraulic lithotripsy (EHL) to 
fragment the stone (▶ Fig. 2), although 
进一步 attempts were unsuccessful.
A computed tomography (CT) scan of the 
abdomen after the procedure showed 
the impacted hardware (▶ Fig. 3). A mul-
tidisciplinary decision was made to re-
peat ERCP with EHL and attempt removal of 
the hardware. Direct cholangioscopy 
was used to perform EHL for over 40 min-
utes to break up the stone. The basket 
was then grasped with a rat-toothed for-
ceps and was successfully removed from 
the CBD (▶ Fig. 4; ▶ Video 1). It was then possible to clearly visualize the hilum of the 
CBD and there was no evidence of re-
tained stone fragments or obvious biliary 
tract disruption (▶ Fig. 5).
Impaction of lithotripter baskets and 
emergency lithotripter malfunction 
during ERCP are rare occurrences. We are a 
high-volume advanced endoscopy cen-
ter and have experienced staff working 
with us for all procedures. While there is 
always a risk of user error, we believe this 
instance was due to a device malfunc-
tion. We present a case in which an im-
pacted lithotripter and CBD stone were 
treated with EHL resulting in destruction of 
the retained stone so that the litho-
tripter basket could then be pulled out.

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Competing interests
Juan Carlos Bucobo is a consultant for Boston Scientific.

The authors
Justine Fenner1, Michael P. Croglio1, 
Demetrios Tzimas2, Juan Carlos Bucobo2
1 Stony Brook University School of Medicine, 
Stony Brook, New York, USA
2 Department of Gastroenterology, Stony 
Brook University Hospital, Stony Brook, New 
York, USA

Corresponding author
Michael P. Croglio, BS 
22 Brookvale Lane, Lake Grove, NY 11755, 
USA 
microglio@gmail.com

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Video 1 Successful treatment of an impacted lithotripter basket and stone in the com-
mon bile duct with intracorporeal electrohydraulic lithotripsy.

Fig. 5 Cholangioscopic image showing patency and integrity of the hilum of the 
common bile duct following successful removal of the retained basket.