

## ERCP in complete situs inversus viscerum using a “mirror image” technique

Complete situs inversus viscerum (SIV) is a rare autosomal recessive congenital anomaly that consists of complete left-right inversion of the viscera. Certain associated malformations have been reported.

This condition hinders the correct interpretation of imaging tests and symptoms, impeding correct diagnosis. It increases the technical difficulties and the possibilities of complications of therapeutic interventions. Various modifications to normal surgical procedures have been reported. There are few publications addressing the question of the best method for endoscopic approaches in these patients [1–5].

We present a “mirror image” endoscopic retrograde cholangiopancreatography (ERCP) technique in a patient with complete SIV, where we were able not only to facilitate access to the papilla, but also to carry out biliary treatment and normalize the cholangiographic images.

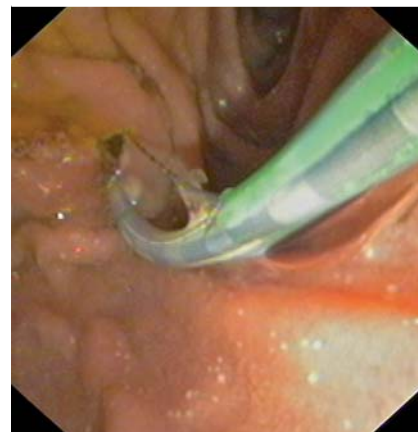
A 63-year-old patient diagnosed with complete SIV, without any concomitant diseases, was admitted to our hospital for mild acute biliary pancreatitis presenting with persistent obstructive cholestasis and mild dilation of the common bile duct on ultrasound. He underwent ERCP before cholecystectomy.

The patient was placed in the right lateral decubitus position, with the radiosurgical equipment placed at his back. During the exploration, all necessary endoscopic maneuvers were performed inversely as per normal procedures, as if the exploration were the mirror reflection of a standard exploration. The changes also affected the lateral movements of the tip of the endoscope.

With this variation of the technique, the papilla is seen in the normal endoscopic position (● Fig. 1) and is therefore easily accessible by classic cannulation maneuvers, and sphincterotomy was performed with a standard sphincterotome, without adding any more difficulties than those of the technique itself (● Fig. 2).



**Fig. 1** Cannulation of the papilla, which was found in its normal location using mirror-image exploration.



**Fig. 2** Sphincterotomy using normal technique.



**Fig. 3** Anatomically normal cholangiogram using mirror-image exploration.

The cholangiogram shows a normal morphology (● Fig. 3).

The patient's condition evolved favorably, with a cholecystectomy performed in a second procedure.

We believe that this exploration technique should be evaluated as a preferable approach in complete SIV, although more cases need to be assessed in order to com-

pare technical difficulties and evaluate success and complication rates.

**Competing interests:** None

Endoscopy\_UCTN\_Code\_TTT\_1AR\_2AB

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## Bibliography

**DOI** 10.1055/s-0030-1255813  
*Endoscopy* 2010; 42: E316–E317  
© Georg Thieme Verlag KG Stuttgart · New York ·  
ISSN 0013-726X

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