

## CLINICAL IMAGE

# A secondary left-sided bilothorax after a car accident

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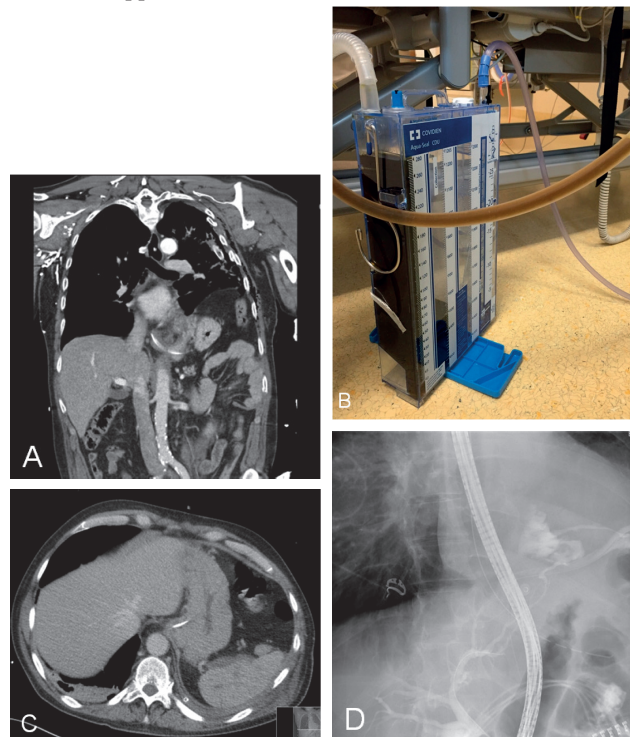
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A 49-year-old male was admitted to the ICU after being hit by a car resulting in multiple injuries: pneumo/haemothorax, multiple rib fractures on the left side (rib 2-8) causing a flail chest, pulmonary contusion, left diaphragmatic rupture of at least 8 cm and laceration of the spleen and liver (CT scan: *figure 1A*). The diaphragmatic rupture was corrected using a polydioxanone suture (PDS) loop, a left-sided chest tube was inserted and bleeding of liver (grade I-II: this injury was not seen on CT) and spleen was treated by Surgicel® and pharmacological correction of homeostasis. No bile leakage was noticed during surgery. The first days after surgery, the chest tube drained blood. Because of the increasing pleural effusion, as seen on the chest X-ray, and the drainage from the chest tube (about 60 ml/24 hours), an extra chest tube was inserted nine days after surgery. Six days later the tubes no longer drained old blood but a yellow fluid (*figure 1B*). The bilirubin level in the pleural fluid was 665  $\mu\text{mol/l}$  and in serum 13  $\mu\text{mol/l}$ . Most likely this was the result of a persistent diaphragmatic rupture as seen on CT (maximum 5 cm), in combination with a lesion of the liver. CT showed no direct evidence of leakage of bile to the thorax. Endoscopic retrograde cholangiopancreatography (ERCP) showed leakage of bile from the left lobe of the liver – location of the liver laceration (*figure 1C*) – to the left part of the thorax (*figure 1D*). A stent was positioned in the common bile duct after which the chest tube stopped draining. After removal of the chest tube there was no indication of bile leakage to the abdomen. Twelve days after the ERCP he was discharged from the ICU and 14 days later he left the hospital. The stent in the common bile duct will be removed eight weeks after insertion. Correction of the diaphragmatic rupture will follow when the patient has fully recovered. A right-sided bilothorax after a blunt hepatic trauma has been reported before,<sup>[1]</sup> but to our knowledge this is the first case of a left-sided bilothorax.

## Disclosures

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**Figure 1.** Panel A: CT scan directly after the car accident showing the left diaphragmatic rupture. Panel B: Yellow fluid from the chest tube containing bilirubin. Panel C: CT scan during the period of the bilothorax showing a fuzzy aspect of the left liver lobe. There was no direct evidence of bile leakage. Panel D: Picture from the ERCP procedure with a blush of contrast above the diaphragm.

## References

1. Cooper AZ, Gupta A, Odom SR. Conservative management of a bilothorax resulting from blunt hepatic trauma. *Ann Thorac Surg.* 2012; 93:2043-4.

## ERRATUM

van den Bergh WM. Pharmacotherapy of traumatic brain injury. *Neth J Crit Care* 2016; 24: 6–11. In Table 1 of this article, all the arrows were unintentionally pointing downwards.

The table has been corrected and the revised version is now shown below. The table has also been replaced in the article you can find in the issues on our website [www.njcc.nl](http://www.njcc.nl)

**Table 1.** Effect of common medications on intracranial pressure.

Drug	Effect on brain	ICP response
Drugs to reduce parenchyma volume		
Mannitol	↓ Interstitial fluid	↓
Hypertonic saline	↓ Interstitial fluid	↓
Furosemide	↓ CSF production, cellular oedema	↓
Dexamethasone	No effect in TBI	↔
Anaesthesia or sedative		
Volatile anaesthetics	↑ Arterial/venous volume	↑
Nitrous oxide	↑↔ CMR	↑↔
Intravenous anaesthetics		
Propofol	↓ CBF/CMR	↓
Barbiturate	↓ CBF/CMR	↓
Dexmedetomidine	↓ CBF	↓
Ketamine	↑ CBF, ↑ CMR	↑↔
Narcotics	↓ CBF/CMR	↔
Benzodiazepines	↓ CBF	↓↔
Muscle relaxants		
Non-depolarising	None	↔
Succinylcholine	↑ CVP	↑ (brief)
Cardiovascular drugs		
Vasodilators	↑ Vascular volume	↑
Vasoconstrictors	↓↔ Vascular volume	↓↔

CBF = cerebral blood flow; CMR = cerebral metabolic rate; CSF = cerebral spinal fluid; CVP = central venous pressure ICP = intracranial pressure; TBI = traumatic brain injury.