

## Lipiodol as a marker for hepatocellular carcinoma migrating into the bile duct

Transarterial chemoembolization (TACE) is an effective palliative treatment for unresectable hepatocellular carcinoma (HCC). However, several complications of TACE have been reported, including transient fever and pain after the procedure, hepatic infarction, liver abscess, hepatic failure, biliary stricture, and biloma [1–3], although acute obstructive cholangitis due to migration of the necrotic tumor after TACE is very rare. We report two cases of acute cholangitis secondary to biliary migration of necrotic hepatocellular carcinoma, both of which were diagnosed pre-endoscopically by computed tomography (CT) scan of the abdomen. Lipiodol stain was used as a marker for necrotic tumor migration.

Our first patient was a 63-year-old man who had undergone three sessions of TACE without any complications. Subsequently, a new lesion was identified adjacent to the previous lesion and a percutaneous ultrasonography-guided liver biopsy was done just before the fourth session of TACE. However, 1 day later the patient developed fever with progressive jaundice. A CT scan of abdomen showed a tiny, hyperdense spot obstructing the common bile duct (CBD). The spot was of the same density as the Lipiodol stain in the liver (● Fig. 1). Another hyperdense spot was also detected in the intestinal lumen (● Fig. 2a,b). Endoscopic sphincterotomy and balloon removal were carried out, and 1 month after endoscopic retrograde cholangiopancreatography (ERCP), another abdominal CT scan demonstrated disappearance of Lipiodol stain (● Fig. 3). Our second patient, a 63-year-old man with known HCC, presented with acute cholangitis within 3 weeks of TACE. A CT scan of the abdomen showed intraluminal Lipiodol stain in the distal CBD and a small Lipiodol stain in the stomach (● Fig. 4a,b). On day 1 after the procedure, his symptoms, including fever and abdominal pain, resolved spontaneously and subsequently serum total bilirubin also decreased. A repeat CT scan of the abdomen did not reveal any Lipiodol stain in the gastrointestinal tract.

**Competing interests:** None



**Fig. 1** Computed tomography (CT) scan of the abdomen showing a tiny, hyperdense spot in the distal common bile duct.



**Fig. 2** a Coronal section computed tomography (CT) scan taken 1 day after chemoembolization and liver biopsy showing a hyperdense spot in the common bile duct. b Another hyperdense spot is seen in the intestine.



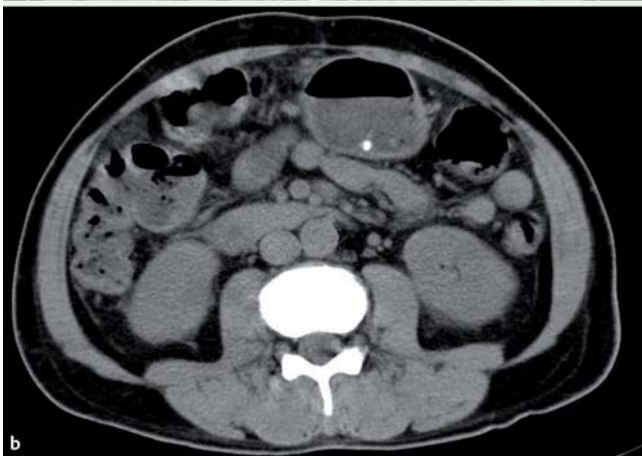
**b**



**Fig. 3** At 1 month after endoscopic retrograde cholangiopancreatography (ERCP) with tumor extraction the Lipiodol remnants have disappeared.



**Fig. 4 a** Coronal computed tomography (CT) of the abdomen demonstrating a bullet-shaped Lipiodol stain in the distal common bile duct. **b** Another hyperdense spot in the stomach.



Endoscopy\_UCTN\_Code\_CPL\_1AK\_2AJ

**W. Ridditid<sup>1</sup>, S. Chittmittrapap<sup>1</sup>,  
C. Kriengkirakul<sup>1</sup>, P. Kongkam<sup>1</sup>,  
A. Janchai<sup>2</sup>, R. Rerknimitr<sup>1</sup>**

<sup>1</sup> Division of Gastroenterology, Department of Medicine, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand

<sup>2</sup> Division of Interventional Radiology, Department of Radiology, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand

#### References

- 1 Kim HK, Chung YH, Song BC et al. Ischemic bile duct injury as a serious complication after transarterial chemoembolization in patients with hepatocellular carcinoma. *J Clin Gastroenterol* 2001; 32: 423–427
- 2 Sakamoto I, Iwanaga S, Nagaoki K et al. Intrahepatic biloma formation (bile duct necrosis) after transcatheter arterial chemoembolization. *AJR Am J Roentgenol* 2003; 181: 78–87
- 3 Yu JS, Kim KW, Jeong MG et al. Predisposing factors of bile duct injury after transcatheter arterial chemoembolization (TACE) for hepatic malignancy. *Cardiovasc Intervent Radiol* 2002; 25: 270–274

#### Bibliography

DOI 10.1055/s-0030-1255598

Endoscopy 2010; 42: E233–E234

© Georg Thieme Verlag KG Stuttgart · New York · ISSN 0013-726X

#### Corresponding author

**R. Rerknimitr, MD**

Division of Gastroenterology  
Department of Internal Medicine  
Faculty of Medicine  
Chulalongkorn University  
Bangkok 10310  
Thailand  
Fax: +66-2-2527839  
rungsun@pol.net