ECHO DOPPLER FOIE

POST procédure

Définitions

- TACE: « transarterial chemoembolisation »
  - Traitement d'un hépatocarcinome avant chirurgie (résection ou greffe) ou (plus rare) métastases hypervasculaires (tumeurs neuro-endocrines)
- PEI: « portal embolisation »
  - Avant hépatectomie pour induire une hypetrophie du foie restant
    - Chirurgie des métastases de cancer colo-rectal
    - Tumeurs de Klatskin

POST TACE

- Recherche de complications:
  - Hématome, collection : BILOMES
  - Atteinte ischémique des voies biliaires
    - Cholécystite ischémique
    - Dilatation des voies biliaires intra hépatiques
- Aspect de la lésion : aléatoire
- Réseau artériel hépatique :
  - Vérifier que l'artère hépatique concernée est occluse et que l'artère hépatique propre et celle de l'autre lobe sont restées perméables

POST PEI

- Aspect de la lésion :
  - Aléatoire
  - Ne pas chercher à identifier une hypertrophie du foie non embolisé
- Réseau porte :
  - Vérifier que la thrombose iatrogène ne s'est pas étendue au réseau sensé être préservé
  - Vérifier que le tronc porte est resté libre
- Réseau artériel:
  - se voit très nettement dans le secteur du foie qui a été embolisé (constatation normale)

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Ischemic Bile Duct Injury as a Serious Complication After Transarterial Chemoembolization in Patients with Hepatocellular Carcinoma

Kim, Hae Kyung M.D.; Chung, Young-Hwa M.D.; Song, Byung-Cheol M.D.; Yang, Soo Hyun M.D.; Yoon, Hyun-Ki M.D.; Yu, Eunsil M.D.; Sung, Kyu-Bo M.D.; Lee, Yung Sang M.D.; Lee, Seung Gyu M.D.; Suh, Dong Jin M.D.

Abstract

Background: Bile duct injuries after transarterial chemoembolization (TACE) have been reported; however, the exact pathogenic mechanisms and clinical implications of the injuries remain to be clarified.

Study: A total of 950 consecutive patients with hepatocellular carcinoma (HCC) were studied. Among them, 807 were treated with TACE and the remaining 143 were treated with transarterial chemoinfusion (TACI) of cisplatin.

Results: None of 143 patients with HCC treated with TACI were found to have any radiographic evidence of biliary injury. In contrast, of the 807 patients treated with TACE, 17 (2%) developed biliary complications. Of all complications, 12 (71%) were subcapsular bilomas; 3 (17%), focal strictures of the common hepatic duct or common bile duct; and 2 (12%), diffuse mild dilatation of the intrahepatic bile ducts. Interestingly, 2 of the 12 bilomas were found in the lobe that was not embolized with gelatin sponge particles. The median numbers of TACE tended to be greater in the patients with focal stricture than in those with bilomas (6.0 vs. 2.5;$p = 0.08$). All 3 patients with focal strictures and 4 of the 12 patients with bilomas had associated serious bacterial infections at presentation.

Conclusions: **Bilomas** seem to be caused by iodized oil rather than gelatin sponge particles; focal strictures of large bile ducts seem to be caused by gelatin sponge particles. We suggest that adjustments in the amounts of iodized oil or gelatin sponge particles and in the sites of embolization may reduce ischemic biliary injuries after TACE.

Journal of Computer Assisted Tomography: May/June 2010 - Volume 34 - Issue 3 - pp 348-353doi: 10.1097/RCT.0b013e3181caaea3Abdominal Imaging**Acute Ischemic Cholecystitis After Transarterial Chemoembolization of Hepatocellular Carcinoma: Incidence and Clinical Outcome**

Wagnetz, Ute MD*; Jaskolka, Jeff MD, RCPSC*; Yang, Peter MD†; Jhaveri, Kartik S. MD*

Abstract

- Purpose: To determine the incidence and clinical outcome of acute ischemic cholecystitis after transarterial chemoembolization (TACE) of hepatocellular carcinoma.
- Materials and Methods: In this ethics board-approved study, a retrospective review of 355 TACE procedures performed in 246 patients during a 5-year period was performed. The review of postintervention computed tomography (CT) reports for findings indicative of acute cholecystitis identified 12 patients (4.9%). In these patients, all CT scans, laboratory results (white blood cell count, alkaline phosphatase level, total bilirubin level), and clinical reports were analyzed to assess imaging findings and outcomes at the following time points: before TACE, within the first week after the procedure, as well as 1 and 6 months post-TACE.
- Results: In 11 of 12 cases, the dominant finding on CT was new gallbladder wall thickening of up to 12 mm, which developed within 24 hours in 10 patients and within the first month after TACE in 1 patient. Gallbladder wall thickening persisted in 1 patient for at least 6 months. Eleven of 12 patients showed deposition of Lipiodol in the gallbladder wall. In 1 patient, the dominant finding on CT was pericholecystic stranding that resolved on follow-up CT after 1 month. None of the patients demonstrated gas in the gallbladder wall, significant pericholecystic fluid, abdominal or liver abscesses. Blood work results revealed transient increase in white blood cell count, alkaline phosphatase level, and total bilirubin level, not different from that seen after TACE in patients without CT evidence of cholecystitis. Clinical reports documented transient right upper quadrant pain for a few days and up to 1 month in 1 case with eventual symptom relief. None of the cases required surgical or radiological intervention. All but 1 case demonstrated normal gallbladder wall thickness after 6 months.
- Conclusions: Acute ischemic cholecystitis is not an uncommon complication after TACE. However, it is self-limiting and does not seem to require any intervention or surgery.

L'image du mois

Cholécystite ischémique - complication classique postchimio-embolisation

Par Calina Atanasiu1, Vanessa Aflalo-Hazan2, Thomas Aparicio1, Robert Benamouzig1
1 Service de gastro-entérologie, 2 service de radiologie - CHU Avicenne Bobigny

Patiente suivie pour une tumeur endocrine bien différenciée de la région iléo-cacale avec des multiples lésions hépatiques se présente aux urgences à J10 postchimio-embolisation pour fievre, frissons et douleurs de l'hypocondre droit. Une TDM abdominale réalisée en urgence met en évidence une prise de contraste intense et un épaississement irrégulier de la paroi de la vésicule biliaire associés a une dilatation modérée des voies biliaires intrahépatiques qui correspond a une cholécystite ischémique post chimio-embolisation. Devant l'absence d'amélioration clinique et biologique sous traitement antibiotique, une cholécystectomie a été réalisée mettant en évidence une cholécystite gangréneuse.
La cholécystite ischémique est une complication classique extrahépatique de la chimio-embolisation. Elle apparait dans 0,26-3,5% des cas selon la littérature. Le mécanisme est le reflux du matériel d'embolisation dans l'artere cystique ou l'embolisation de variantes artérielles hépatiques. Le traitement classique est la cholecystectomie cependant certains series ont rapporté des guerisons avec un traitement conservateur...

http://www.sfendocrino.org/article/291/la-lettre-du-gte-de-septembre-octobre-2010

Int J Emerg Med. 2010 December; 3(4): 479. Published online 2010 April 9. Christopher Sampson and Ryan Petersen

- **infarction and liver abscess formation following right hepatic artery chemoembolization for metastatic neuroendocrine tumor**

Doppler Sonography of Hepatic Arterial Blood Flow Velocity After Percutaneous Transhepatic Portal Vein Embolization

Yasushi Kito[1]
Masato Nagino
Yuji Nimura

OBJECTIVE. This study was conducted to elucidate the changes in hepatic arterial blood flow after portal vein embolization.

SUBJECTS AND METHODS. We prospectively measured the flow velocity and resistive index of the common, right, and left hepatic arteries, using Doppler sonography, in 21 patients who underwent embolization of the right portal vein. The measurements were performed before and 1, 3, 5, 7, and 14 days after embolization. We assessed the changes in liver volume with a volumetric study using CT.

RESULTS. After embolization, flow velocity in the common hepatic artery increased significantly ($p < 0.0001$). Flow velocity in the right hepatic artery also increased significantly ($p < 0.0001$), with a significant decrease in resistive index ($p < 0.0001$). The flow velocity and resistive index of the left hepatic artery were unchanged. The increase in flow velocity in the right hepatic artery significantly correlated with that in the common hepatic artery ($r = 0.514$, $p < 0.05$). The calculated volume of the embolized right hepatic lobe significantly ($p < 0.0001$) decreased, from 685 ± 32 cm^3 before embolization to 568 ± 28 cm^3 after embolization. The atrophy rate of the right hepatic lobe significantly correlated with the increase in flow velocity in the right hepatic artery ($r = 0.700$, $p < 0.0005$).

CONCLUSION. Portal vein embolization induces an increase in hepatic arterial blood flow velocity in the embolized hepatic segments, resulting from an increase in common hepatic arterial flow, but not from a steal phenomenon due to decreased hepatic arterial blood flow in the nonembolized hepatic segments. This observation may be explained by the simple mechanical effect of interposing a slower flowing stream (portal flow) in the path of a faster flowing stream (arterial flow).

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[1]All authors: First Department of Surgery, Nagoya University School of Medicine, 65 Tsurumai-cho, Showa-ku, Nagoya 466-8550, Japan. Address correspondence to Y. Nimura.

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