

# Liver metastasis presenting as an abscess

ASY Fung

**A 37-year-old woman with a history of nasopharyngeal carcinoma presented with a typical clinical and radiological picture of a pyogenic liver abscess, which was confirmed by a purulent aspirate and bacteriological culture. The abscess did not resolve after two months and although cytological results did not support a diagnosis of cancer, the lesion proved to be a metastasis on biopsy.**

*HKMJ 1996;2:102-103*

*Key words: Nasopharyngeal neoplasms; Neoplasm metastasis; Liver abscess; Diagnosis, differential*

## Introduction

Liver metastasis is common in patients with malignancy and acute pyogenic liver abscess is also not uncommon in Hong Kong. Distinguishing between the two is not always straightforward. We report a patient who presented with a typical clinical and radiological picture of a liver abscess but who subsequently was found to have a solitary liver metastasis.

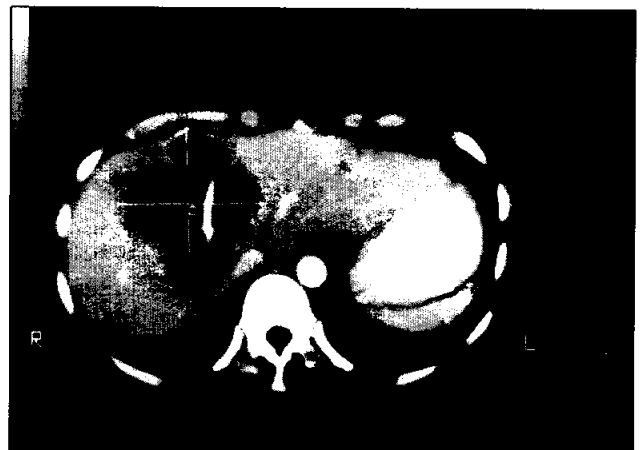
## Case report

A 37-year-old woman presented with a four day history of epigastric pain. She had previously been treated with radiotherapy for nasopharyngeal carcinoma (NPC) and was thought to be recurrence free on follow up. On admission she had a fever of 39.8°C with right hypochondrial tenderness but no jaundice. No cervical lymphadenopathy was detected.

The patient had a leucocytosis of  $12 \times 10^9/\text{ml}$  and a mild rise in immunoglobulin to 43 g/l and alkaline phosphatase to 125 U/L. Aspartate aminotransferase (AST) and alanine aminotransferase (ALT) levels were normal at 24 U/L and 15 U/L, respectively. Radiographs of the chest and abdomen were unremarkable. Ultrasonography revealed a solitary 12 cm hypoechoic multiseptate lesion with a fluid level in the right lobe of the liver with no evidence of biliary abnormality.

The diagnosis of a liver abscess was confirmed by the percutaneous aspiration and drainage of 535 ml of turbid fluid. Culture for bacteria grew group G Streptococcus and no amoeba were found. The patient's fever subsided and an endoscopic retrograde cholangiogram showed no biliary abnormality. A three-month course of cefuroxime and metronidazole was planned. Follow up ultrasonography one and three weeks later suggested progressive resolution with the abscess cavity measuring 4 cm and 3 cm, respectively.

At six weeks, there was a persistent daily drainage of approximately 30 ml of pus although the patient appeared well. An abscessogram via the percutaneous drain again showed no connection with the biliary tree. Repeat pus cultures remained positive for growth despite antibiotic administration.



**Fig 1. Computed tomography scan showing the abscess cavity with a drain in situ**

Department of Surgery, Kwong Wah Hospital, 25 Waterloo Road, Kowloon, Hong Kong  
ASY Fung, FRCSEd, FHKAM (Surgery)  
Correspondence to: Dr ASY Fung

tion. Fluid cytology smears twice demonstrated inflammatory cells only and the serum alpha-fetoprotein level was normal.

A subsequent ultrasound scan at two months showed that the cavity had increased to 10 cm in size. Computed tomography (Fig 1) was performed with a view towards surgical drainage but this gave no additional information. To definitely rule out malignancy we decided to perform a percutaneous biopsy using a Tru-Cut needle (Travenol Laboratories, Deerfield, Illinois, USA), which revealed an undifferentiated carcinoma similar to the previous nasopharyngeal carcinoma (NPC).

## Discussion

In patients with a known malignancy any hepatic lesion should be suspected of being a metastasis. However, the incidence of other pathologies, including liver abscess, is the same as in the general population.

Both conditions can present with fever<sup>1</sup> with or without right upper abdominal pain. Typically the two can be differentiated by the solid nature of a metastasis and the cystic nature of an abscess on imaging. However, this is not always the case. Cystic intrahepatic tumours<sup>2</sup> and solid-appearing abscesses,<sup>3</sup> on ultrasonography, computed tomography, and magnetic resonance imaging, have been reported and are not infrequently encountered in clinical practice. Even scintigraphy may not be helpful.<sup>4</sup>

Raised levels of alkaline phosphatase, transaminases and mucoproteins have been reported to be indicative of hepatic metastasis in patients with nasopharyngeal carcinoma (NPC),<sup>5</sup> but such biochemical abnormalities can equally exist in cases of liver abscess. Aspartate aminotransferase is more frequently raised than is ALT in liver metastasis and a high AST/ALT ratio should raise the suspicion of tumour. However, the ratio was normal in this case.

It is known that many patients with NPC develop distant metastases.<sup>6,7</sup> The most common sites<sup>8,9</sup> are the bones, lungs and liver. However, in the present case, the evidence of an abscess was unequivocal.

This represents a rare presentation with few similar cases having been reported.<sup>10,11</sup> Presumably, the liver metastasis had undergone spontaneous necrosis and become secondarily infected. This was not apparent as the lesion initially showed resolution and we were falsely reassured by the negative cytology results. Perhaps the overwhelming number of organisms and inflammatory cells masked the presence of any malignant cells.

Some authors have emphasised the need to rule out a liver abscess and not to assume metastasis in a hepatic lesion on the basis of a past history of malignancy. The converse also holds true. It should be borne in mind that no form of imaging is totally accurate and even cytology studies can be misleading. When there is doubt, an early biopsy may yield the most definitive results.

## References

1. Salmama HM, Abdel-Wahab MF, Farid Z. Hepatobiliary disorders presenting as fever of unknown origin in Cairo, Egypt: the role of diagnostic ultrasonography. *J Trop Med Hyg* 1988;91 (3):147-9.
2. Kokubo T, Itai Y, Nagao T. Intrahepatic cholangiocarcinoma with cystic formation. *Radiat Med Med Imaging Radiat Oncol* 1990;8(6):219-21.
3. Subramanyam BR, Balthazar EJ, Raghavendra BN, Horii SC, Hilton S, Naidich DP. Ultrasound analysis of solid-appearing abscesses. *Radiology* 1983;146(2):487-91.
4. DeRoo MJ. Scintigraphic appearance of necrotic liver metastasis identical with that of amoebic abscess. *J Nucl Med* 1975;16(3):250-1.
5. Lynn TC, Hsieh RP, Chung CY, Huang SC, Hsieh T, Tu SM. Epstein-Barr virus-associated antigens and serum biochemistry in nasopharyngeal carcinoma. *Laryngoscope* 1984;94:1485-8.
6. Hsu MM, Tu SM. Nasopharyngeal carcinoma in Taiwan: clinical manifestations and results of therapy. *Cancer* 1983; 52:362-8.
7. Morales P, Bosch A, Salaverry S, Correa JN, Martinez I. Cancer of nasopharynx in young patients. *J Surg Oncol* 1984;27:181-5.
8. Shimada F. Nasopharyngeal carcinoma. *Gan To Kagaku Ryoho* 1984;11:1182-8.
9. Ahmad A, Stefani S. Distant Metastases of nasopharyngeal carcinoma: a study of 256 male patients. *J Surg Oncol* 1986;33:194-7.
10. Atoba MA, Otulana BA, Adebajo AO. Primary liver cell carcinoma associated with infective liver disease. *Trop Geogr Med* 1988;40:244-6.
11. Thel MC, Ciaccia D, Vredenburgh JJ, Peters W, Corey GR. *Clostridium septicum* abscess in hepatic metastasis. *Bone Marrow Transplant* 1994;13:495-6.