LIVER LESIONS IN CANCER: WHAT ARE THEY?

The liver presents a gamut of lesions for evaluation and appropriate triage with imaging and in particular MRI playing a significant role in this objective. In patients (without a known malignancy) the vast majority of non-cystic lesions are benign (haemangioma, FNH, adenoma, fat, others) while few are malignant, commonly metastases or HCC. Even though patients with known malignancy are more likely to have a diagnosis of metastases for a liver lesion some studies have shown that small (<1cm) hepatic lesions were equally likely to be benign in patients with or without a cancer diagnosis (2- 4) Small, incidental liver lesions were more likely to be malignant in patients with primary cancers of the small bowel, skin, pancreas, liver/biliary tract, or uterus (2,3). While metastases maybe a common consideration in cancer, it is important to recognise varied patterns of liver metastases particularly after chemotherapy which can occasionally mimic other lesions such as hemangioma, cystic degeneration or necrosis can mimic cysts or abscess (5).Post chemotherapy related focal or nodular fat deposition can also lead to variety of pseduolesions and one needs to be well aware of these appearances and distinguish from fat containing hepatic tumors (6,7). Uncommon occurrence of hepatic peliosis and sinusoidal obstruction syndrome also needs to be kept in mind in patients with cancer (8, 9). In addition unexpected second malignancy can be an uncommon occurrence such as lymphoma or cholagiocarcinoma and each lesion needs to be evaluated by its own merit. Finally in patients with cancer and suppressed immune mechanisms an infective etiology manifesting as an abscess must also be kept in mind.

References

1. Little JM, Richardson A, Tait A. Hepatic dystychoma: a five-year experience. HPB Surg 1991;4:291–7.

2. Jones EC, Chezmar JL, Nelson RC, Bernardino ME.The frequency and significance of small (≤ 15 mm) hepatic lesions detected by CT. AJR Am J Roentgenol 1992;159:535–9.

3. Schwartz LH, Gandras EJ, Colangelo SM, et al. Prevalence and importance of small hepatic lesions found at CT in patients with cancer. Radiology 1999;210:71–4.

4. Noone TC, Semelka RC, Cem Balci N, Graham ML.Common occurrence of benign liver lesions inpatients with newly diagnosed breast cancer investigated by MRI for suspected liver metastases. JMagn Reson Imaging 1999;10:165–9.

5. Semelka RC, Worawattanakul S, Noone TC, Burdeny DA, Kelekis NL, Woosley JT,Lee JK. Chemotherapy-treated liver metastases mimicking hemangiomas on MR images.Abdom Imaging. 1999 Jul-Aug;24(4):378-82.

6. Valls C, Iannacconne R, Alba E, Murakami T, Hori M, Passariello R, Vilgrain V.Fat in the liver: diagnosis and characterization. Eur Radiol. 2006Oct;16(10):2292-308.

7. Basaran C, Karcaaltincaba M, Akata D, Karabulut N, Akinci D, Ozmen M, Akhan O.Fat-containing lesions of the liver: cross-sectional imaging findings with emphasis on MRI. AJR Am J Roentgenol. 2005 Apr;184(4):1103-10.

8. Iannaccone R, Federle MP, Brancatelli G, Matsui O, Fishman EK, Narra VR,Grazioli L, McCarthy SM, Piacentini F, Maruzzelli L, Passariello R, Vilgrain V.Peliosis hepatis: spectrum of imaging findings. AJR Am J Roentgenol. 2006 Jul;187(1):W43-52.

9. Uchino K, Fujisawa M, Watanabe T, Endo Y, Nobuhisa T, Matsumoto Y, Kai K, SatoS, Notohara K, Matsukawa A. Oxaliplatin-induced liver injury mimicking metastatic tumor on images: a case report. Jpn J Clin Oncol. 2013 Oct;43(10):1034-8