Prolonged survival of metastatic hepatocellular carcinoma: a case report

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Abstract: Management of hepatocellular carcinoma (HCC) generally follows EASL-EORTC clinical practise guideline. We report a case of a 50-year-old man who had multinodular HCC with lung metastases, whose management had deviated from the standard guideline but still survive 5 years after initial diagnosis.

Keywords: Hepatocellular carcinoma (HCC); lung metastases; surgery

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Introduction

Hepatocellular carcinoma (HCC) is the second leading cause of cancer-related death in the world (1). The prognosis of HCC in our patient population, similar to other centres, is very poor largely due to the advanced stage at presentation with large and multinodular lesion as well as limited access to hepatobiliary service in our country. Overall median survival of HCC has been reported to be around 11 months from the date of diagnosis (2). Multimodality approaches provide better outcome for advanced HCC, giving better quality of life (3). We report a case of metastatic HCC who had gone radical surgeries despite his advanced stage of disease.

Case presentation

A 50-year-old gentleman, with no known comorbid, presented with 1-month history of non-specific abdominal pain with palpable abdominal mass over right hypochondrium. Investigation revealed raised alpha fetoprotein (AFP), 146 ng/mL. Hepatitis screening was negative. Ultrasound abdomen showed large heterogenous solid mass in right lobe of liver. Computed tomography (CT) liver 3 phase showed large heterogenous enhancing mass measured 12 cm \times 10 cm right lobe of liver with area of central hypodensity likely of central necrosis and enhanced in late arterial phase (*Figure 1*). MRI liver showed T1 hypointense and T2 hyperintense mass measuring 10.5 cm \times 10 cm \times 9 cm in segment 6/7 of liver and a smaller T1 hypointense and T2 hyperintense with peripheral enhancement lesion measuring 2 cm \times 2 cm \times 1.5 cm at the edge of segment 3.

He underwent right hemihepatectomy and local excision of tumor at segment 3 in July 2012. Histopathology of both lesions confirmed hepatocellular carcinoma, grade 2. Post operatively, AFP reduced to 3.2 ng/mL. Subsequent 3-monthly surveillance AFP showed increasing level to 24.8 ng/mL 1 year later. CT staging in August 2013 showed no recurrence in the liver but there were two lung lesions at left lower lobe; posterobasal segment 1.6 cm × 1.5 cm and lateral basal segment 1 cm in size. Radiofrequency ablation (RFA) of both lung lesions done in August 2013. AFP post RFA reduced to 2.9 ng/mL. Unfortunately, AFP increased over 1 year and CT scan (Figure 2) showed left posterior basal segment lung lesions and hilar lymphadenopathy in December 2014, not possible for RFA. Clinically he only had minimal cough and as such requested delay in starting Sorafenib which was finally started in April 2015 at the dose of 400 mg BD.

Unfortunately, AFP kept increasing to 85 ng/mL and CT staging in January 2016 showed larger lung metastases with no other distant metastases.

In April 2016, he underwent left thoracotomy and



Figure 1 CT scan of the liver showing (A) arterial hypervascularity and (B) late venous washout. CT, computed tomography.



Figure 2 Larger lung metastases in CT staging January 2016. CT, computed tomography.

pneumonectomy of lung metastases and removal of mediastinal nodes. Histopathology report of the tumour was consistent with that of metastatic hepatocellular carcinoma. Sorafenib was restarted a month after surgery.

He is now 5 years from the initial diagnosis of stage III hepatocellular carcinoma and 4 years from the diagnosis of stage IV metastatic hepatocellular carcinoma. He is clinically well and maintain an active and productive life with minimal effect only on effort tolerance. Latest CT surveillance in August 2017 showed no evidence of disease recurrence. Recent AFP in September 2017 remains 2.25 ng/mL.

Discussion

Our patient initially was diagnosed with locally advanced multinodular hepatocellular carcinoma, Barcelona clinic liver cancer (BCLC) intermediate stage (stage B). Although EASL/EORTC guidelines (3) recommend transarterial chemoembolization (TACE), our patient had surgery instead because it was felt that this is the best chance of cure for him.

Many groups have shown that not only liver resection in large or multinodular HCC with good liver function can be done safely (4), they have also showed that that liver resection can potentially give better overall survival than TACE for selected BCLC-B patients (5-7). In a study by Zhong *et al.*, 39% of BCLC-B HCC patients who had liver resection still surviving at 3 years post procedure compared to only 16% in those who had TACE instead. The study also found that both techniques have acceptable morbidity and similar in-hospital mortality (8).

Our patient's liver remains clear of disease post liver resection but when the disease recurs 1 year later, it unfortunately recurred in the lung. Although lung metastases are more uncommon than intrahepatic recurrence post resection, it is the commonest site of extrahepatic spread in HCC (9,10). Radical treatment of lung metastases is usually contraindicated as most of the patients would have multiple lung metastases rather than single lesion.

Therefore, patients with metastatic hepatocellular carcinoma usually are treated with systemic treatment with a multikinase inhibitor, sorafenib. Although sorafenib can potentially improves survival of these patients to 10.7 vs. 7.9 months of best supportive care, this is hardly a curative treatment (11). Our patient had sorafenib for 10 months but this fails to control his rising AFP and enlarging lung lesions.

We found a few studies that discussed surgical approach for lung metastases in hepatocellular carcinoma. In a case series reported by Tomimaru *et al.*, he looked at 14 of his patients who had one or two potentially resectable lung

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metastases following liver resection of the primary disease. Of these, eight underwent resection of the metastases and six did not. They found that the 1-, 3- and 5-year survival rates following lung metastatectomy was 83.3%, 33.3% and 33.3% vs. 33.3%, 0% and 0% in HCC patients who did not have their lung metastases removed (P=0.03) (12). In a more recent report by Zhou *et al.* reported a median overall survival of 33 months (range, 10.7–77 months) for HCC patients who underwent lung metastatectomy (13).

Because of this, as our patient was a fit man still leading an active and productive life, we feel that we ought to approach the case more radically. Fortunately, we do not have that restricted access to cardiothoracic services compared to hepatobiliary and patient had successfully undergone the surgery last year.

Conclusions

Our patient has now survived 5 years following the initial diagnosis of HCC stage III and 4 years since diagnosis of lung metastases. He demonstrated that best outcome comes from personalised treatment, close surveillance, early detection of relapse and multimodality approach.

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Informed Consent: Written informed consent was obtained from the patient for publication of this manuscript and any accompanying images.

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