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## Case Report

# A case of hepatocellular carcinoma recurring during pregnancy

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### ABSTRACT

The hepatocellular carcinoma is more common in African and Asian countries with an incidence in women at around 5.5/10,000. Hepatocellular carcinoma is an aggressive tumour, with high recurrence rates, reaching around 50%. Hepatocellular carcinoma is rare in pregnant women. In the English literature, we have found only one case of hepatocellular carcinoma recurrence during pregnancy that was described in a 39 years old patient with the recurrence occurring during her second pregnancy. In our work, we describe the second case of pregnancy complicated by recurrent, advanced and inoperable hepatocellular carcinoma. We also present a literature review about management challenges and the importance of multi-disciplinary care in pregnant women with hepatocellular carcinoma.

**Keywords:** Hepatocellular carcinoma, pregnancy, cancer recurrence

### INTRODUCTION

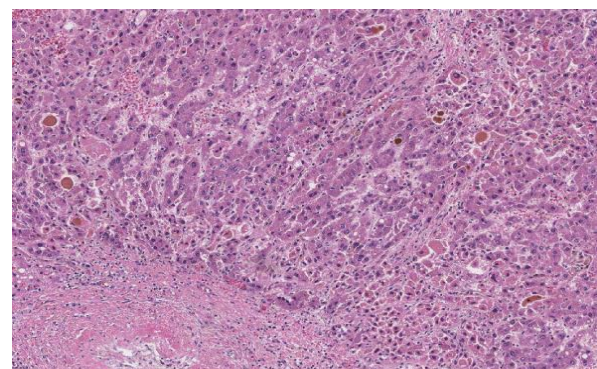
Its occurrence in pregnant women is an even rarer event. In the literature, less than 50 cases have been reported over the past 60 years.<sup>1</sup>

We describe the second case of pregnancy complicated by recurrent, advanced and inoperable HCC. Current work also presents a literature review about management challenges and the importance of multi-disciplinary care in pregnant women with HCC in particular and with any other complex medical conditions, in general.

### CASE REPORT

A 21-year-old female presented to our hospital for a 28 weeks pregnancy. She had a history of a HCC, 8 months before her actual admission, for which she underwent a left liver lobectomy, extended to segment IVb (Figure 1). The pathological examination revealed a 15 cm moderately differentiated, grade II HCC. The resection margin was evaluated at 4 mm (Figure 2).

She was also diagnosed for B hepatitis, and has received anti-viral therapy with tenofovir with regression of the viral charge, 3 months after therapy initiation.



**Figure 1: Histopathological section showing HCC in patient.**

During follow up of the patient, an MRI was performed 3 months after the diagnosis of HCC, and revealed a 1.1 cm nodule on segment V, that was very suggestive of HCC

recurrence. The patient was lost to follow-up. At her actual admission, the liver ultrasound showed progression of the nodule that reached 29x30 mm.



**Figure 2: Pathological examination showing a 15 cm moderately differentiated, grade II HCC.**

It was decided to induce labour in our patient. However, two weeks from her last admission, she had a spontaneous labour and gave birth to a healthy male newborn. The decision of chemo embolization was made, but the patient died 1 week after she have given birth.

## DISCUSSION

The hepatocellular carcinoma (HCC) is typically more common in Asian and African countries with an incidence in women at around 5.5/10,000.<sup>2,3</sup>

HCC is strongly associated to cirrhosis, often secondary to Hepatitis B and C.<sup>3,4</sup> HCC is an aggressive tumour, with high recurrence rates, reaching around 50%, 22months following resection.<sup>2,3</sup> HCC is rare in pregnant women and the majority of masses identified during pregnancy are benign. These are essentially represented in previous reports of hepatic masses associated with pregnancy by liver haemangioma, liver cell adenoma and focal nodular hyperplasia.<sup>4</sup> In the English literature; we have found only one case of HCC recurrence during pregnancy.<sup>5</sup>

It was described in a 39 years old patient initially diagnosed as having an HCC that was incidentally discovered in a hepato-splenectomy and pancreatectomy specimen for a presumed hepatic adenoma in the context of multiple arterio-venous malformations. The HCC recurred during her second pregnancy. The patient had a simple spontaneous vaginal delivery of a live female infant with maternal and neonatal survival six months following delivery.<sup>5</sup>

Hepatic disorders contribute further the adverse pregnancy outcomes, potentially due to factors such as altered retinoid metabolism.<sup>6</sup> Explorations of liver masses are limited by the risk of exposing the foetus to ionising radiation, thus avoiding contrast enhanced CT scan.<sup>7</sup>

Abdominal ultrasound is the first choice for evaluation. It can distinguish between cystic or solid lesions but is less useful for the differential diagnosis of solid hepatic lesions.<sup>8</sup> Non-contrast MRI studies enable evaluation of hepatic masses in pregnancy.<sup>9</sup> A useful diagnostic and follow-up tool is alpha-foeto-protein (AFP).<sup>10</sup>

It is however important to have the AFP pre-pregnancy level, since this marker can increase normally during pregnancy.<sup>5</sup> Hepatocellular carcinoma appears to have a more aggressive behaviour when associated with pregnancy.<sup>11</sup> It is not clear whether pregnancy, especially the increased oestrogen levels could promote development of HCC, as postulated in some reports.<sup>12</sup>

In a case report it was recommended to perform an early pregnancy termination followed by surgical resection when possible.<sup>13</sup> In inoperable and symptomatic patients, the median survival is of 8 weeks. When HCC occurs during pregnancy, it is associated to a poor obstetric outcome and intrauterine fetal death has been reported in many cases.<sup>8</sup> In current case, fetal outcome was favourable. The risk of spontaneous hepatic rupture is around 12.5% and the median maternal survival is shorter when compared with HCC in non-pregnant women.<sup>14,15</sup>

## CONCLUSION

Current work, report the second case of pregnancy complicated by recurrent, advanced and inoperable hepatocellular carcinoma. Such a condition is associated to management challenges and reflects the importance of a multi-disciplinary care in pregnant women with hepatocellular carcinoma.

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