



Case report

Haemorrhagic rupture of hepatocellular carcinoma: Management of a case in a resource-constrained hospital in TOGO

Tamassi Bertrand Essobiyou^{a,*}, Damigou Mawuli Sambiani^b, Ayi Kossigan Amavi^c, Boyodi Tchangai^d

^a General Surgery Department, Dapaong Regional Hospital Center, Dapaong, Togo

^b General Surgery Department, Sylvanus Olympio University Hospital Center, Lome, Togo

^c Medicochirurgical Clinic of the Armies, Sylvanus Olympio University Hospital Center, Lome, Togo

^d Visceral Surgery Department, Sylvanus Olympio University Hospital Center, Lome, Togo

ARTICLE INFO

Keywords:

Tumour
Carcinoma
Hepatocellular
Rupture
Packing

ABSTRACT

Introduction: Hepatocellular carcinoma (HCC) is the major malignant tumour of the liver. Its rupture is a serious and fatal complication. Its diagnosis and management are a major challenge in sub-Saharan Africa. The peri-hepatic packing: the only alternative for the management of hepatic tumour ruptures in resource-constrained hospitals.

Case report: We are reporting the case of a 45 years old man, carrier of viral hepatitis B and poorly followed up, who presented a sudden picture of hemodynamic instability. A laparotomy allowed finding a hepatic tumour rupture. He benefited from a damage control by peri hepatic packing.

Conclusion: Peri hepatic packing is a major solution in the management of ruptured liver tumour in Africa.

1. Introduction

HCC is the major malignant tumour of the liver and develops at the expense of hepatocytes [1]. In sub-Saharan Africa, its epidemiology is closely linked to viral hepatitis B and C. Its diagnosis is often delayed and management difficult in sub-Saharan countries [2]. HCC rupture is a serious and fatal complication that poses a real problem in our settings, both in terms of its diagnosis and its management. The peri-hepatic packing: the only alternative for the management of hepatic tumour ruptures in resource-constrained hospitals. We are reporting a case of management of hemorrhagic rupture of HCC in a regional hospital in Togo.

2. Case report

It was a 45 years old patient who was a farmer, carrier of chronic viral hepatitis B known for 10 years with a notion of non-compliance with the follow-up prescriptions of his disease. He presented with pain in the right hypochondrium and epigastrium associated with abdominal distension of sudden onset, without any traumatic context. The examination on admission revealed a state of haemodynamic instability of

hypovolaemic shock, abdominal distension with a sloping dullness of the flanks. Faced with this acute picture associated with haemodynamic instability, the diagnosis of a state of haemorrhagic shock was made. The emergency blood test revealed severe anaemia with a haemoglobin level of 4.7 g/dl, a uraemia of 0.13 g/l, and a creatinemia of 11 mg/l. No imaging work-up was performed: the scanner was not available in the region and ultrasound was not accessible in emergency. He was resuscitated with large bore venous lines (2), nasogastric and urinary catheterisation, administration of tranexamic acid (4 g), a bag (500 ml) of gelofusine and then 5 adult bags of packed red blood cells and 2 bags of fresh frozen plasma. In view of the persistence of haemodynamic instability, an explorative laparotomy was made. Intraoperatively, a large hemoperitoneum (about 4l) was found and we aspirated it, revealing a cirrhotic liver with a multi-nodular surface and a firm consistency. The liver had a large mass on the underside of the right lobe with a friable and ruptured wall that was causing active bleeding jet (Fig. 1). A histological tumour sample was taken and the laparotomy was shortened with a peri-hepatic packing (Fig. 2). Three (3) abdominal compresses were used. They were placed on the lower side of the liver and inserted: backwards between the right renal compartment and the liver, medially between the stomach and the lower side of the left lobe,

* Corresponding author.

E-mail address: tamassi2343@outlook.com (T.B. Essobiyou).

<https://doi.org/10.1016/j.ijscr.2022.107199>

Received 20 April 2022; Received in revised form 10 May 2022; Accepted 11 May 2022

Available online 16 May 2022

2210-2612/© 2022 The Authors. Published by Elsevier Ltd on behalf of IJS Publishing Group Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

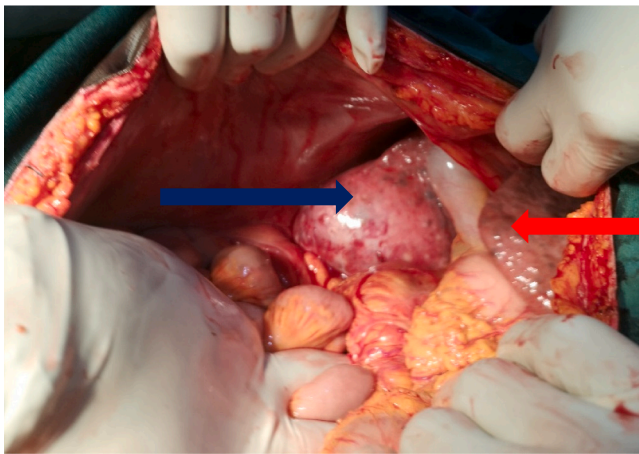


Fig. 1. Surgical view showing a remodelled and multi-nodular aspect of the liver (red arrow), a rounded and protruding mass developed at the expense of the lower face of the right liver (blue arrow).

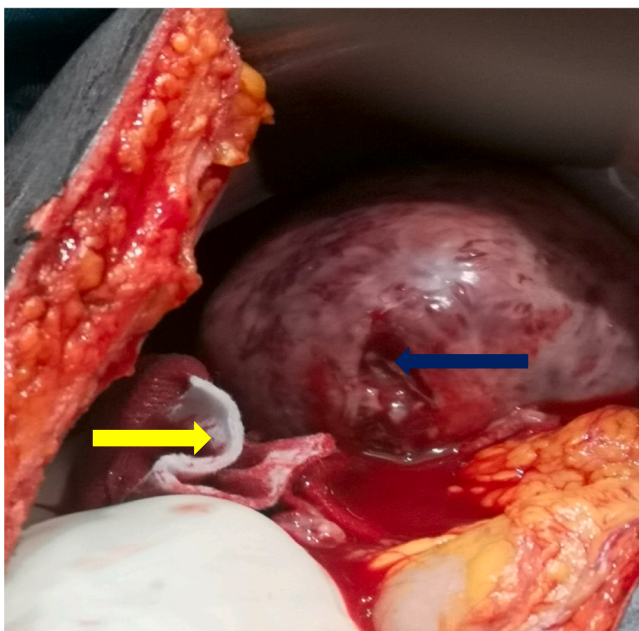


Fig. 2. Surgical view showing the fissure in the tumour wall (blue arrow) and the beginning of the peri-hepatic packing (yellow arrow).

and laterally between the abdominal wall and the right lobe. At the end of the operation, the abdominal wall was closed in one plane to the skin by an overjet. Postoperative care was administered in the surgical unit by the senior anaesthesia and resuscitation technicians. The packing was removed after 3 days by a reoperation. Histological examination of the biopsy specimen was not performed due to the patient's financial difficulties. The postoperative course was favourable. In view of a very suggestive context: patient with chronic viral hepatitis, cirrhotic liver and a haemorrhagic tumour, we concluded to a hepatocellular carcinoma rupture. The patient was evacuated after stabilization of the haemodynamic state on the 4th postoperative day to a referral centre for treatment in a hepato-gastroenterology department.

3. Discussion

HCC is the most common malignant liver tumour and most often develops in chronic liver disease [1]. Spontaneous rupture is a relatively

rare but serious complication [3]. It is responsible for haemodynamic instability and requires rapid and appropriate management. Its management is difficult in resource-constrained regions, particularly in sub-Saharan Africa. We report on the management of a haemorrhagic HCC rupture in a resource-constrained hospital.

As in other sub-Saharan countries, the occurrence of HCC in Togo is closely linked to viral hepatitis B and C [1]. It is often diagnosed at an advanced stage [2]. Predictors of rupture include size, peripheral location and protrusive nature of the tumour as in our case. Rupture of hepatocellular carcinoma is a serious and life-threatening complication. Its diagnosis must therefore remain an emergency. Diagnosis is based on CT scan, which confirms haemoperitoneum, detects the tumour and possible extravasation [3]. The means of diagnosing rupture in an emergency are limited in our context, thus reinforcing the role of clinical presumption. In our case, no imaging studies could be performed due to their unavailability.

The management of HCC is complex because patients most often have cirrhosis in addition to the basic liver disease [1]. This management is costly and in Togo represents about 5 times the average monthly salary. In the case of tumour rupture, management is an emergency that must not be delayed. The first-line treatment is embolisation [3]. This can be either chemo-embolisation or simple embolisation [3]. Embolisation requires a certain technical platform that is not available in many developing countries. This treatment is not available in Togo. In the case of a very limited technical platform, as was the case in our observation, shortened laparotomy with peri-hepatic packing could be a good solution. In our case, it allowed us to have a satisfactory stabilization of our patient and his evacuation to a reference centre for a better management.

Per-hepatic packing is a technique for the management of severe and haemorrhagic liver injury [4]. The principle is to achieve sufficient liver restraint to ensure haemostasis through compression [4]. To be effective, peri-hepatic packing has certain requirements. This technique uses large compresses. These compresses are packed on the underside of the liver and inserted backwards between the liver and the renal cavity, outwards between the liver and the chest wall and inwards between the liver and the stomach (Fig. 3) [4].

4. Conclusion

Hepatocellular carcinoma is a common liver tumour and represents a real challenge for sub-Saharan countries. It is diagnosed late and occurs in the complication phase. Although rare, its rupture is a fatal complication requiring early diagnosis and emergency treatment. This diagnosis is difficult in developing countries due to the unavailability of suitable imaging facilities. The best therapeutic approach to this

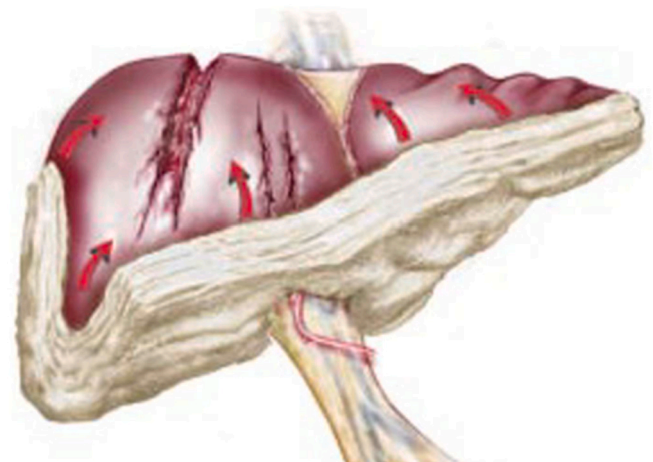


Fig. 3. Presentation of a peri-hepatic packing [4].

condition is therefore based on the prevention of risk factors, particularly viral hepatitis B and C in our countries. Due to the limited technical platform in our countries, peri-hepatic packing is the only alternative for the management of haemorrhagic tumour rupture. This manuscript was written according to the rules of the SCARE [5].

Ethical approval

The study protocol fulfilled the requirements by the Hospital Ethics Committees and was approved.

Sources of funding

The authors declare they have received no funding for the preparation of this document.

CRediT authorship contribution statement

The study design and data acquisition were done by ETB. SDM and AKA carried out the literature review. The manuscript was written by ETB, SDM and TB. All the authors participated in the revision of the manuscript.

Guarantor

Essobiyou Tamassi Bertrand.

Registration of research studies

Not applicable.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Provenance and peer review

Not commissioned, externally peer-reviewed.

Declaration of competing interest

The authors have no financial, consultative, institutional, and other relationships that might lead to bias or conflict of interest.

References

- [1] J.-F. Dufour, Hepatocellular carcinoma, *Schweiz Gastroenterol.* 1 (1) (2020) 18–22.
- [2] O. Bouglouga, A. Bagny, L.M. Lawson-Ananissoh, M.A. Djibril, D. Redah, A. Agbeta, Is the management of hepatocellular carcinoma progressing in black Africa? *Rev méd Madag.* 2 (3) (2012) 176–179.
- [3] A. Mahmoudi, M. Maatouk, Spontaneous rupture of hepatocellular carcinoma: an emergency diagnosis to be aware of, *Pan. Afr. Med. J.* 22 (2015) 65.
- [4] C. Letoublon, How I do: peri-hepatic tamponade 141 (1) (2004) 27–30.
- [5] R.A. Agha, T. Franchi, C. Sohrabi, G. Mathew, for the SCARE Group, The SCARE 2020 guideline: updating consensus Surgical Case Report (SCARE) guidelines, *International Journal of Surgery* 84 (2020) 226–230.