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Title of the presentation: MASSIVE HEMORRHAGE AFTER PERCUTANEOUS LIVER BIOPSY IN A PATIENT WITH LIVER TUMOUR: A SUCCESSFUL HEPATIC VEIN EMBOLIZATION

Authors and Institute:

Dr. K. Naveen kumar DNB., FNVIR ., MNAMS

Consultant Department of Interventional Radiology & Endovascular surgery , Naruvi hospitals , Vellore, Tamil nadu.

Introduction

- Percutaneous abdominal solid organ biopsies are among the most commonly performed interventional procedures. While having lower morbidity and mortality than open surgical biopsies, they have their own set of risks.
- Ultrasound is the preferred modality for image guidance in percutaneous liver biopsies in most patients, as it offers real-time, multiplanar localization of both the needle and the target lesion.
- Major haemorrhage following percutaneous biopsy of liver tumour is not a rare complication. Incidence of minor bleeding is 1 in 500 cases and major bleeding varies between 1 in 2,500 and 10,000 cases.
- When performing systematic ultrasound evaluation following biopsy, signs of bleeding, including liver hematoma or peritoneal fluid, are observed in 3-23% of the patients.
- Bleeding from hepatic vein usually stops with supportive care. But massive hemoperitoneum is a challenging and poor prognostic event after biopsy.

Objectives:

- Hepatic vein injury after percutaneous liver biopsy can be managed with endovascular treatment with high success rate

Case history:

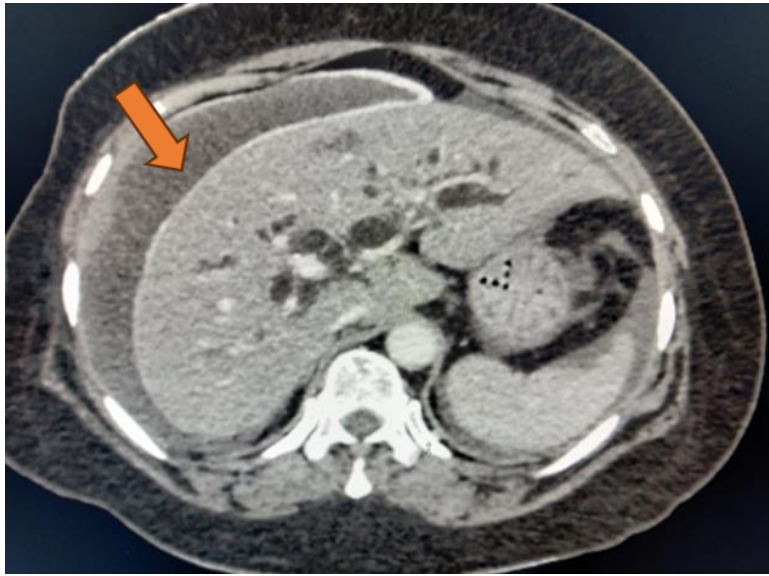


- A 55-year-old female patient with history of carcinoma breast underwent ultrasound-guided Tru-cut biopsy of liver lesion with 18-gauge needle and biopsy tract closed with gelfoam.
- Pre procedure blood report: HB-9g/dl, Platelet- 3.1 lakh, PT-11.2, INR-0.92
- 7 hr after the procedure, the general condition of the patient started to deteriorate. She developed hypotension (50/30mmhg) and tachycardia (110bpm)
- Blood report- HB-3g/dl
- USG abdomen showed hemoperitoneum and perihepatic hematoma.
- Active bleeding was detected in CT abdomen angiography. The bleeding was noted at portovenous phase. Inotropic supports and blood transfusions were started.
- Patient was intubated and shifted to ICU.

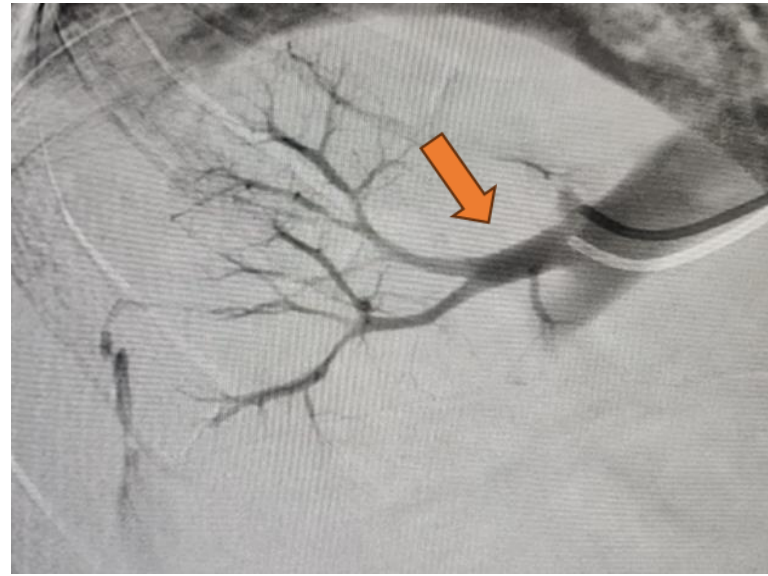
- After stabilization patient was transferred to cathlab. Hepatic artery angiography showed no obvious contrast extravasation.
- Through jugular route hepatic venography was performed, which showed active contrast extravasation from peripheral right hepatic vein.
- Superselective cannulation was done with 1.98F microcatheter and successful angiographic embolization was performed with N-butyl cyanoacrylate (NBCA) glue.
- Post embolization significant clinical improvement noted. Patient was extubated next day and discharged in stable condition after 4 days.

Representative images:

Hemoperitoneum
With contrast leak



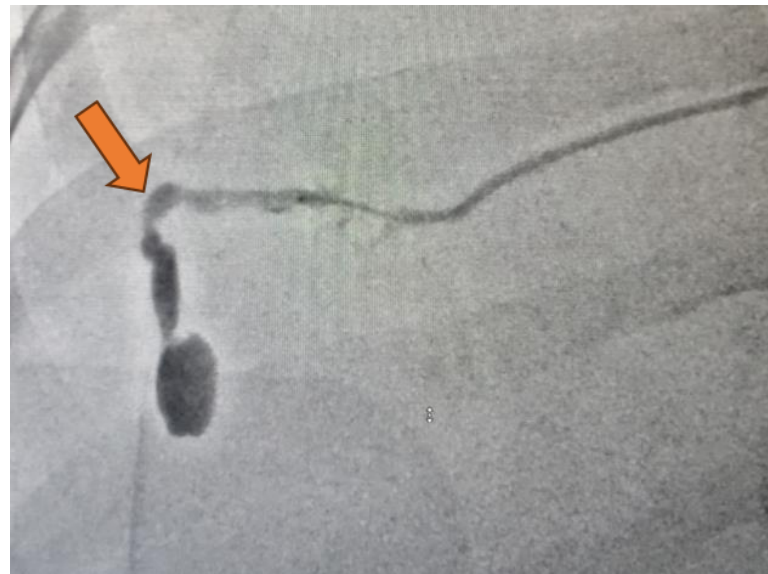
Hepatic
venography



Active contrast
extravasation



Post Glue injection



Conclusion:

- Angiographic embolization can be performed in patients who are hemodynamically unstable with high technical and clinical success rate.
- Greatest morbidity and mortality from post biopsy hemorrhages occur when there is a delay in diagnosis or a failure to start aggressive management.
- This emphasizes the need for close postprocedure observation and physician familiarity with the management of hemorrhagic complications.
- Embolization should be as selective and peripheral as possible to minimize the affected area and thus decreases the risk of postembolization infarction.
- The therapeutic options have evolved from surgical management to an endovascular, less invasive approach for treating vascular complications, which has dramatically decreased the morbidity and mortality rates.

References:

- Neuberger J, Patel J, Caldwell H, et al Guidelines on the use of liver biopsy in clinical practice from the British Society of Gastroenterology, the Royal College of Radiologists and the Royal College of Pathology Gut 2020;69:1382-1403
- van Beek D, Funaki B. Hemorrhage as a complication of percutaneous liver biopsy. Semin Intervent Radiol. 2013 Dec;30(4):413-6. doi: 10.1055/s-0033-1359737. PMID: 24436570; PMCID: PMC3835436.
- Esbjörn Hederström ,Lillemor Forsberg , C.-H. Florén, Hanne Prylz Liver biopsy Complications monitored by ultrasound. doi:10.1016/0168-8278(89)90167-0
- Hellekant C. Vascular complications following needle puncture of the liver. Clinical angiography. Acta Radiol Diagn (Stockh). 1976 Mar;17(2):209-22. doi: 10.1177/028418517601700209. PMID: 1274657.
- Perrault J, McGill DB, Ott BJ, Taylor WF. Liver biopsy: complications in 1000 inpatients and outpatients. Gastroenterology. 1978 Jan;74(1):103-6. PMID: 618417.i
- Glaser J, Pausch J. Zur Frage des Risikos von Leberbiopsien [The risk of liver biopsy]. Z Gastroenterol. 1995 Nov;33(11):673-6. German. PMID: 8600665.