

PP000915 - Combined Prospective and Retrospective assessment of haematoma formation post percutaneous ultrasound non targeted transthoracic liver biopsy - a single centre study

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Background

Morbidity

Pain is probably the commonest complication of liver biopsy occurring in up to 30% (Gilmore, Burroughs et al. 1995, Forssell, Bronkowsky et al.1981)

Hypotension and vasovagal episodes are common accompaniments to pain, occurring in approximately 3% of liver biopsies (Perrault, McGill et al. 1978)

Significant haemorrhage (indicated by a drop in haemoglobin of >2g/dL) occurs in 0.35% -0.5% of all procedures (McGill, Rakela et al. 1990), Knauer 1978).

Subclinical bleeding however occurs in a much higher percentage of patients with up to 23% of patients having intrahepatic or subcapsular haematomas detectable by ultrasound at 24hrs post biopsy (Minuk, Sutherland et al. 1987). In general these haematomas are small and not associated with significant haemodynamic compromise.

Haemobilia occurs in a 0.05% of patients and patients present with biliary pain, jaundice and melaena, and arterial embolisation may rarely be required.

Puncture of other viscera occur infrequently with an incidence of between 0.01% and 0.1% (Piccinino, Sagnelli et al. 1986). The puncture of lung, colon, kidney and gallbladder together with pneumothorax, pleural effusion, and subcutaneous emphysema are well- recognised complications, which rarely require intervention (Stotland 1996).

Other recognised complications include sepsis, reaction to the anaesthetic, breakage of the biopsy needle (Lazar 1978), and intrahepatic arteriovenous fistulae (Okuda, Musha et al. 1987)

Mortality

The overall mortality rate in the 3 months after liver biopsy has been reported to be as high as 19% (Gilmore, Burroughs et al 1995)

Aims and Objectives

- To assess the frequency of haematoma formation post ultrasound guided liver biopsy, and the sequelae
- Can we change the current standard in our hospital to combine all cases to one single medical day unit

Methods

- An audit tool was created for obtaining and collecting data regarding indications for a liver biopsy, how many attempts were made, how many cores taken and if there were any immediate post procedural complications
- 4 months of data was used
- 2.5 months of data was used retrospectively and if there was any follow up in terms of scans or admissions following complications of the biopsy this was also noted
- 1.5 months of data was collected prospectively with a radiology registrar using a portable USS scanner to assess for haematoma formation 2-4 hours post procedure

Results

- 31 patients were included in this audit, 10 were prospectively assessed and 21 were retrospectively assessed using online patient records and the PACS system to note any follow up scans
- In terms of indications for the biopsy, the two largest indications were 32% patients had a biopsy for NAFLD ?NASH and 26% had a biopsy for metastatic disease seen on previous scans
- The number of cores taken varied from 1-4 in a single sitting
 - 10/31 male 32%
 - 21/31 female 78%
- 100% patients did not have any immediate post procedural complications (pain,hypotension,vasovagal,perforation)
- 0% of scanned patients had a haematoma
- 1 patient had significantly deranged clotting and received 4 units of FFP prior to the biopsy
- 11 patients underwent further imaging
 - 5 tumour staging
 - 2 routine ?fibrosis 6 month follow up ultrasound
 - 1 ?ascites (2 months post biopsy)
 - 1 CTKUB
 - 1 MRCP – GB calculus (?medication related)

Conclusion

- Excellent post biopsy haematoma rates
- Although a small sample, results are encouraging
- Scope for reshaping services and improving patient pathway which is currently being analysed

