EQA LX12 – Educational Case

Male 69 years

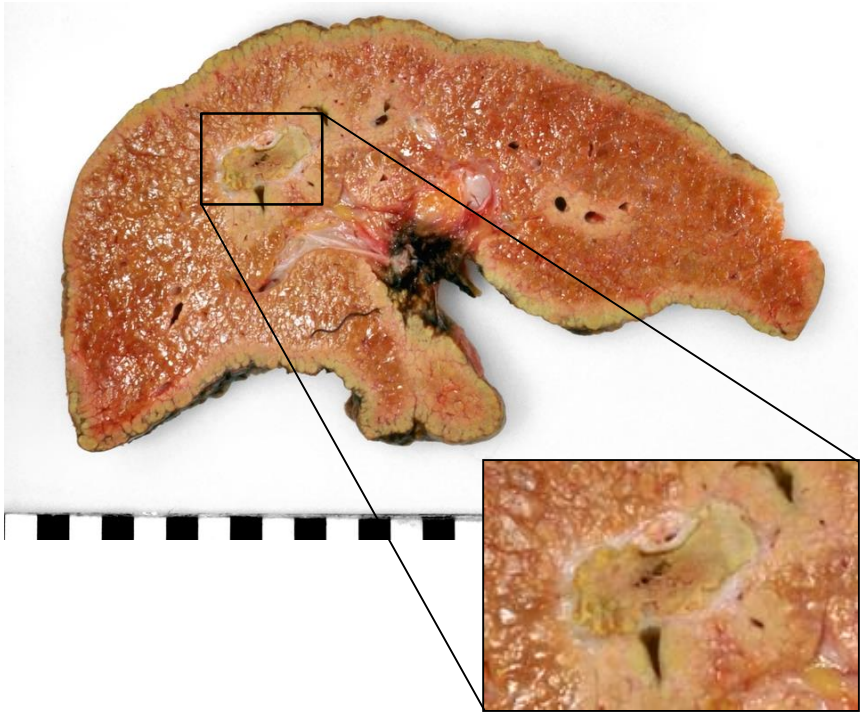
Clinical Details: OLTx for HCC (Segment IV) / NAFLD cirrhosis - Explant. ?other lesions

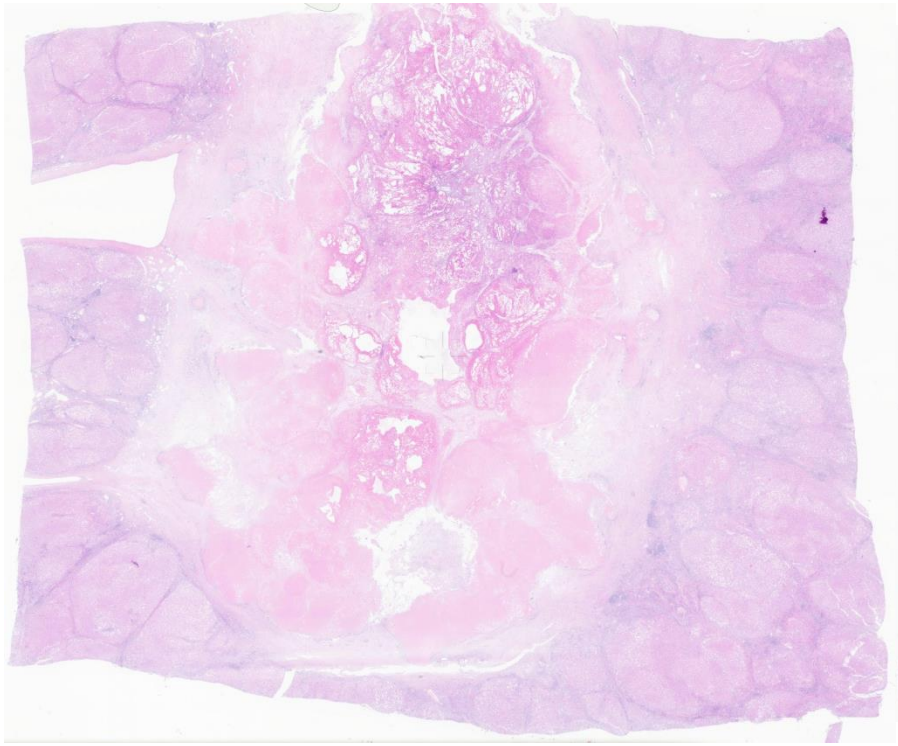
Specimen: Liver explant.

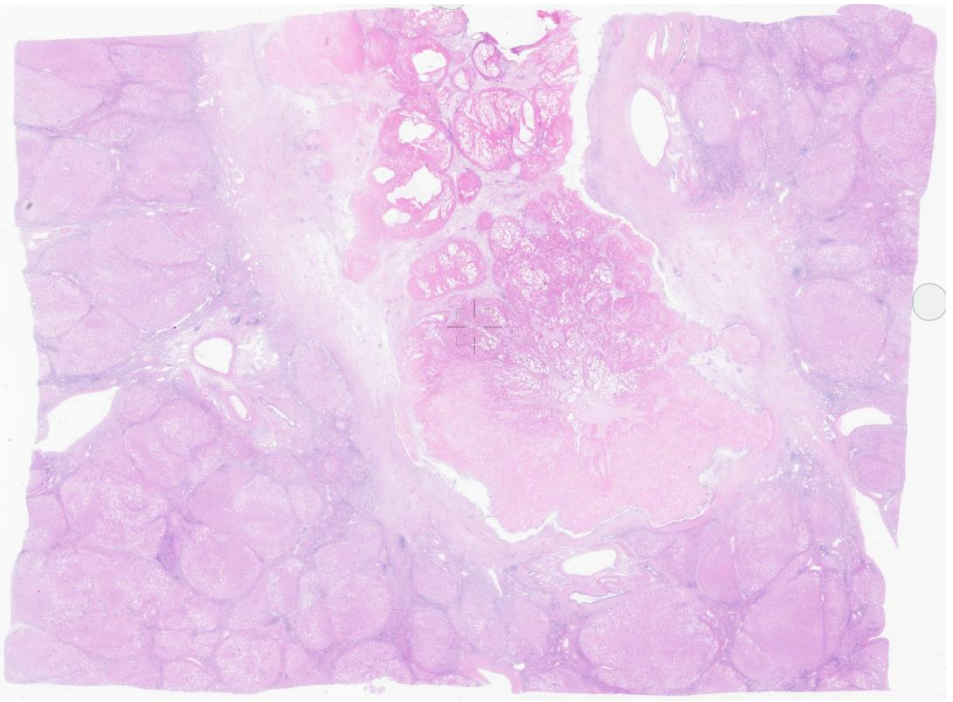
Macroscopic description: Liver explant, multiple lesions identified. This lesion relatively well defined necrotic yellow coloured tumour with pale white rim measuring up to 30mm in segment VIII.

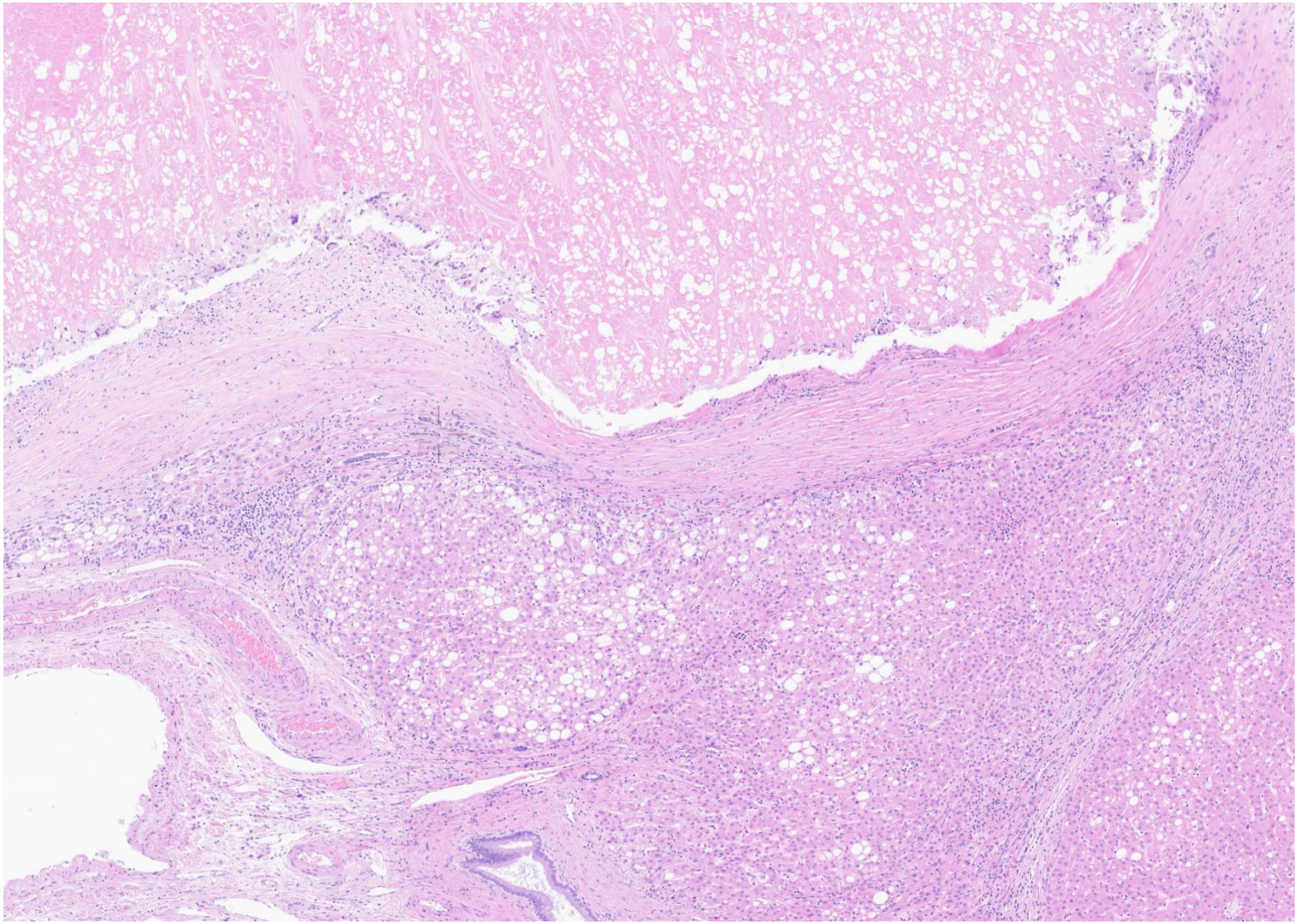
Additional information from EPR:

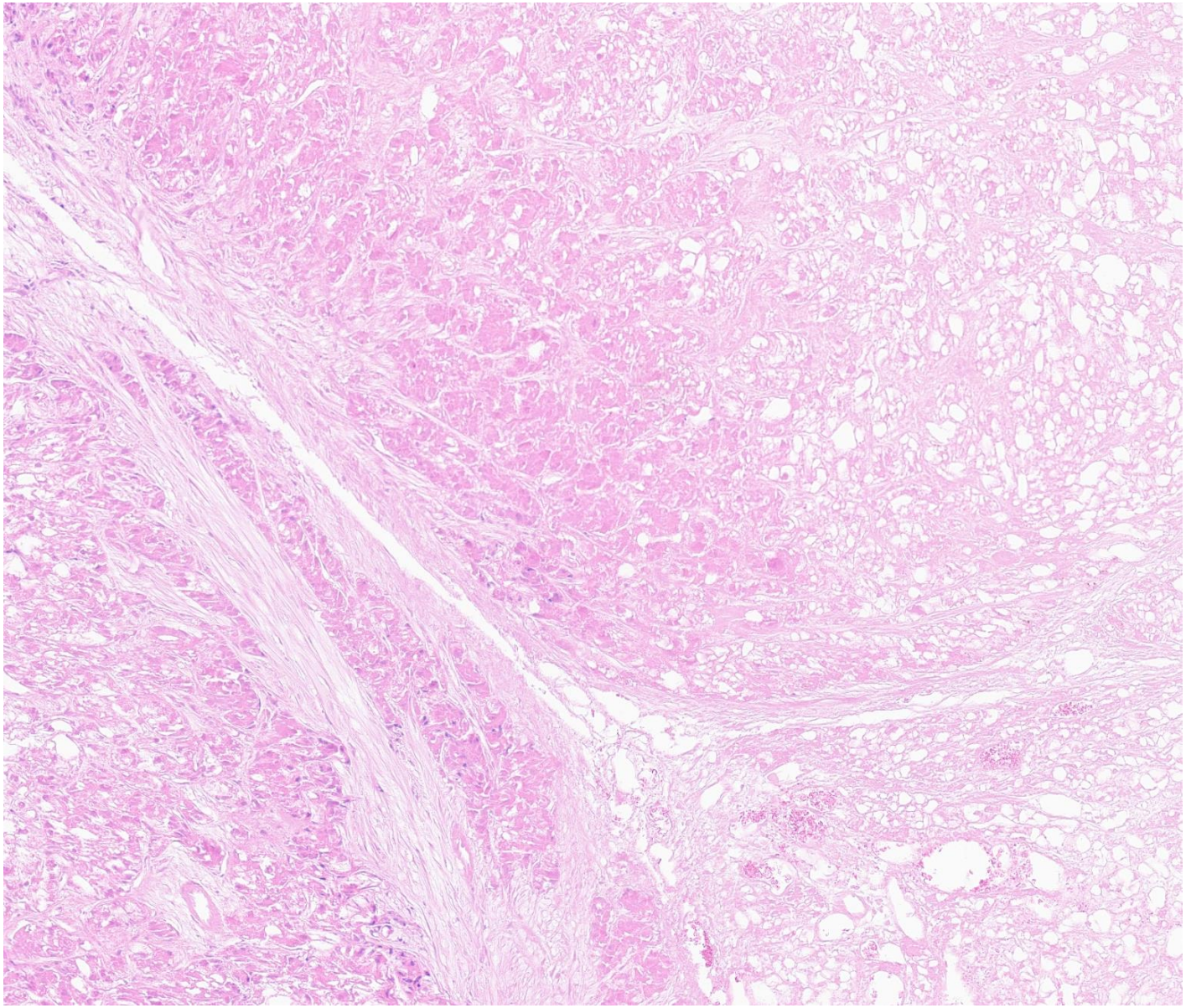
- Patient has undergone previous RFA and TACE to some liver lesions

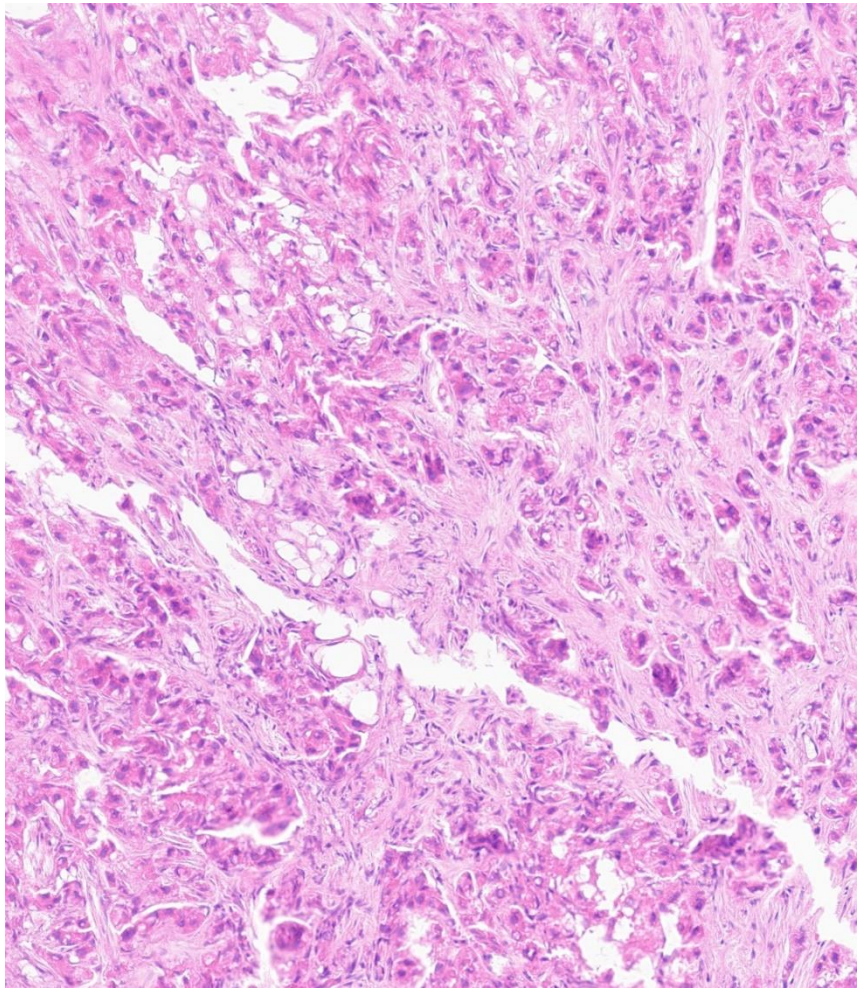


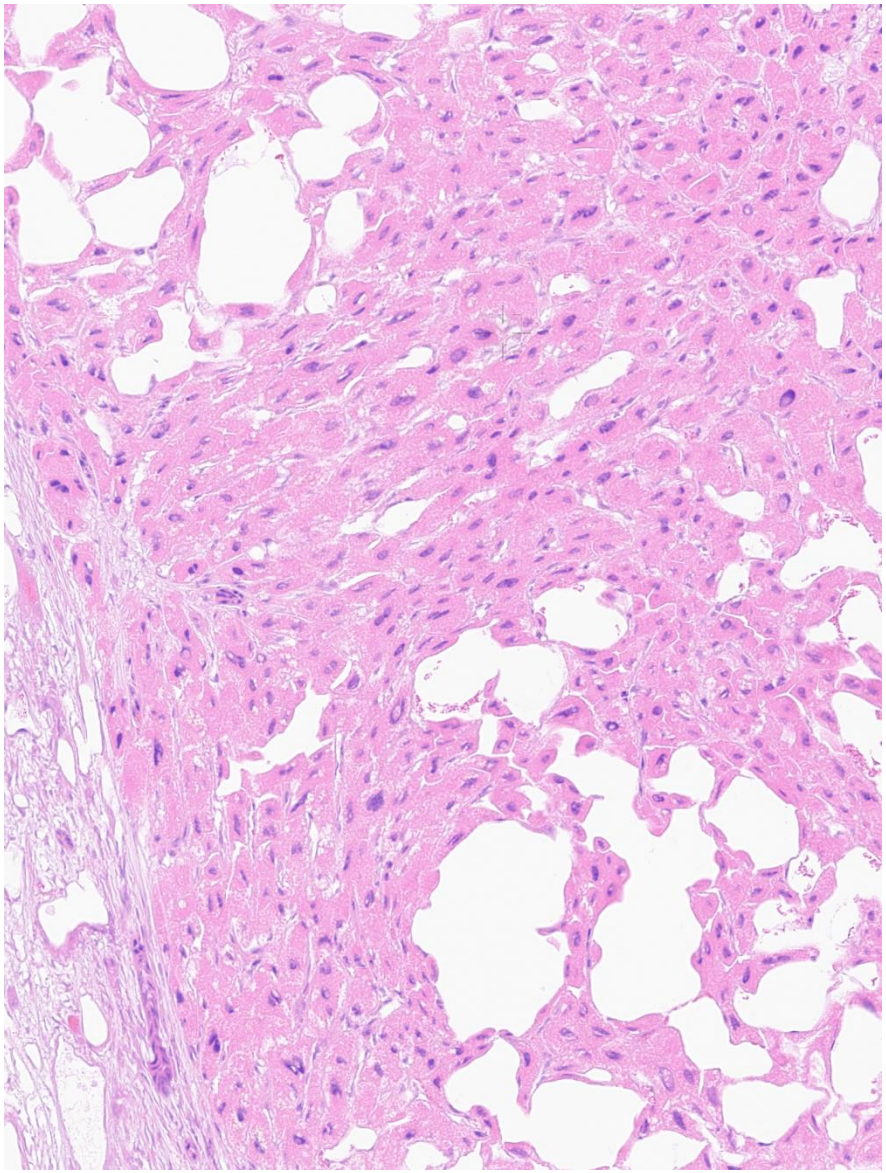












LX12

Educational case - not for scoring.

70/86 submitted a response.

For the lesion:

41 (58.6%) HCC in drop down menu or in comments

9 ? Angiomyolipoma

4 FNH

3 Hepatocellular adenoma

2 ? lymphangioleiomyomatosis

7 don't know / non- diagnostic sample

22 Effect of treatment – RFA or TACE

Background liver:

55/60 (91.7%) fatty liver disease

56/60 (93.3%) cirrhosis

53/ 57 (93.0%) fatty liver disease – NAFLD +/- alcohol

Rest – didn't comment; no alternative diagnoses made for background

LX12

Original report and further information (if any):

From EPR - Previous RFA and TACE to some of the liver lesions.

This lesion sampled had received RFA.

Diagnosis: Ischaemic necrotic lesion with surrounding fibrosis; centrally some residual hepatocytes with nuclear detail, however cells appear withered.

Seen in thermal response to the previous RFA treatment. Unlikely to reflect viable tumour therefore considered as showing complete response to treatment.

Background established cirrhosis secondary to fatty liver disease with some ballooning suggestive of steatohepatitis. Clinically NAFLD.

HEPATOLOGY

AASLD

HEPATOLOGY, VOL. 70, NO. 3, 2019

Stereotactic Radiofrequency Ablation of Hepatocellular Carcinoma: a Histopathological Study in Explanted Livers

PMC FREE Full text

Reto Bale [1], Peter Schullian,[1] Gernot Eberle,[1] Daniel Putzer,[1] Heinz Zoller,[2] Stefan Schneeberger,[3] Claudia Manzl,[4] Patrizia Moser,[5] and Georg Oberhuber[5]

Liver INTERNATIONAL

Radio-frequency ablation of hepatocellular carcinoma before liver transplantation: a histologic and 'TUNEL' study

G. J. Netto, 1 B. Altrabulsi, 1 N. Katabi, 1 P. Martin, 2 K. Burt, 1 M. Levy, 2 E. Sanchez, 2 D. L. Watkins, 1 L. Jennings, 1 G. Klintmalm, 2 R. Goldstein 2

First published: 27 June 2006 | https://doi.org/10.1111/j.1478-3231.2006.01278.x | Citations: 12

G. J. Netto, Department of Pathology, Johns Hopkins University, 402 N. Broadway, Weinberg Building/Room 2242, Baltimore, MD 21231, USA.

Clinical TRANSPLANTATION

The Journal of Clinical and Translational Research

Radiofrequency ablation causes 'thermal fixation' of hepatocellular carcinoma: a post-liver transplant histopathologic study

James E Coad, Kambiz Kosari, Abhinav Humar, Timothy D Sielaff

First published: 18 July 2003 | https://doi.org/10.1034/j.1399-0012.2003.00062.x | Citations: 48

James E. Coad, Department of Pathology, Robert C. Byrd Health Sciences Centre of West Virginia University, 3024 Greystone Drive, Morgantown, WV 26508, USA. Tel.: (304) 685 6124; fax: (304) 293 1627;

Thermal fixation of HCC post-RFA

- "Differing from classic tissue necrosis, the treated lesions all showed 'thermal fixation', with preserved tissue architecture and microscopic cellular detail."
- "A narrow hypocellular fibrous boundary with a focal 'foreign body' giant cell-type reaction developed around the edge of the ablation zone. "

Coad JE, Kosari K, Humar A, Sielaff TD. Radiofrequency ablation causes 'thermal fixation' of hepatocellular carcinoma: a post-liver transplant histopathologic study. Clin Transplant. 2003 Aug;17(4):377-84. doi: 10.1034/j.1399-0012.2003.00062.x. PMID: 12868996.

- "islands of histologically seemingly viable hepatoma cells, were totally surrounded by areas of established coagulative necrosis…raised the question whether these 'islands' were rather dead tumour cells that were thermally 'fixed' before manifesting morphologic features of necrosis or apoptosis"

Netto GJ, Altrabulsi B, Katabi N, Martin P, Burt K, Levy M, Sanchez E, Watkins DL, Jennings L, Klintmalm G, Goldstein R. Radio-frequency ablation of hepatocellular carcinoma before liver transplantation: a histologic and 'TUNEL' study. Liver Int. 2006 Aug;26(6):746-51. doi: 10.1111/j.1478-3231.2006.01278.x. PMID: 16842333.

- TUNEL (tdt-mediated UTP nick-end labelling) staining performed on these more viable appearing areas:
- "viable carcinoma was never found in the tumour center, but only in the area of the tumour margin"

Bale R, Schullian P, Eberle G, Putzer D, Zoller H, Schneeberger S, Manzl C, Moser P, Oberhuber G. Stereotactic Radiofrequency Ablation of Hepatocellular Carcinoma: a Histopathological Study in Explanted Livers. Hepatology. 2019 Sep;70(3):840-850. doi: 10.1002/hep.30406. Epub 2019 Feb 14. PMID: 30520063; PMCID: PMC6766867.

TNM staging

- "The criteria to classify as a **yp**T category are not fulfilled since **RFA is not considered a neoadjuvant therapy**. Only systemic and/or radiotherapy (before surgery) are considered as neoadjuvant therapy. "

Lisbet Van Eycken (TNM Helpdesk)