Reviewer's report

Title: Segmental arterial mediolysis of left gastric artery: A case report and review of pathology

Version: 2 Date: 1 April 2013

Reviewer: richard E slavin

Reviewer's report:

Major compulsory revisions:

This manuscript reports a case of perigastric hemorrhage caused by segmental arterial mediolysis involving the left gastric artery. The paper covers many salient features of this disorder. However, recent advances, now currently available, clarifying its etiology, pathogenesis, relationship to fibromuscular dysplasia and differential diagnosis were not reviewed. The new information from these articles needs to be incorporated in this manuscript. (see Slavin &Yaeger [2012] Segmental arterial mediolysis - an iatrogenic vascular disorder induced by ractopamine. Cardiovasc Pathol; 21: 334; Slavin [2013] Segmental arterial mediolysis: A clinical-pathologic review, its role in fibromuscular dysplasia etc. WJCD; 3: 64-81.

1] In the abstract background: etiology of SAM is known - an iatrogenic disorder caused by adrenergic receptor agonists able to cause release of norepinephrine from the peripheral sympathetic nervous system.

2] Background Paragraph concerning Pathogenesis: short paragraph concerning mediolysis, gaps and its complications not correct but correct in the discussion.

3] Case presentation: Were any medications used to treat her medical problems adrenergic agonists or did she eat a meal containing abundant pork or beef flesh about 10 or more days prior to the onset of her illness. Apparently ractopamine usage is legal in Australia. Is it also utilized as a repartitioning agent prior to in sheep slaughtering?

4] Histology evaluation paragraph. Were changes limited to the left gastric artery or were serosal and/or submucosa branches also involved. Did the accompanying gastric vein show alterations of the venous angiopathy that may accompany SAM. On the basis of figures 2,3 and 5 the morphologic changes were consistent with SAM in the reparative phase showing granulation tissue filling gap-aneurysms and extending over the intima of surviving arterial wall islands. Arteries also show foci of total medial loss, prevented from forming gaps, by a retained internal elastica and intima. In the muscle depleted media scattered spindle cells are evident representing fibroblasts a few showing vacuoles. The latter do not represent mediolysis since the contents are clear rather than foamy - see WJCD for criteria for mediolysis.

5] Figures;
a) Delete figure 1. It is out of focus
b) Figure 2 See pathologic description of reparative SAM
c) Figure 2b See pathologic description. Also nicely shows focus of intact smooth muscle cells in area total medial muscle loss due to prior episode of mediolysis
d) Figure 5 (3) Need an elastic tissue stain (Movat best) to interpret changes. Either represents an organized thrombus with recanalization within a gap-aneurysm (similar to Figure 2) or a dissecting aneurysm with an accompanying hematoma developing in granulation tissue formed in the expanded tear space between the outer media and adventitia. Step sections may also help in resolve this dilemma

Minor Essential Revisions
Renumber microphotographs

Discretionary Revisions

All the arteries used in the microphotographs should be stained with elastic tissue stains. These will more clearly outline retained arterial structures and distinguish between muscle and fibrous tissue - Important in determining site of perceived vacuolar change.
Additional arterial sections to discover site of arterial rupture and to uncover additional pathologic changes since arteries exhibiting SAM frequently exhibit a panoply of lesions brought about by their asynchronous maturation, varying intensities and segmental distribution.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

- I declare that I have no competing interest's.