Metalic foreign body in the liver of cow: a case report

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(Received April 7, 2014; Accepted April 24, 2014)

Abstract

On necropsy of a two years old clinically healthy cow admitted to Mosul abattoir at postmortem inspection slaughtering establishment a metalic foreign body (as a piece of wire) was identified in the region of the liver. Gross examination revealed multiple abscess involving the liver, as well a large area of necrosis around foreign body penetration. Microscopically Suppurative inflammation in addition to foreign body granulomatous reaction.

Keywords: Foreign Body; liver; Cow

Pathological finding

Macroscopically

On necropsy of clinically healthy cow a metallic wire was found penetrating in and out the reticulum. Most perforation occur medially in the direction towards the liver (Fig. 1 and Fig. 2). A morphological changes of the liver revealed to hardening and Palness of hepatic tissue surrounding the penetrating area of foreign body. As well presence of small multiple abscess were seen in the liver. A creamy offensive pus seen in the center of these abscess (Fig. 3).

Microscopically

Foreign body granuloma was recognized by identifying the necrotic center, infiltrated by macrophages plasma cells, lymphocytes, epitheloid cells, and foreign body giant cell
(Fig. 4), additionally there were hepatic abscess which characterized by liquifactive necrosis infiltrated by inflammatory cells (neutrophils, macrophages, and lymphocytes surrounded by fibrous capsule (Fig. 5), (Fig. 6).

Fig. 1: Ingested wire perforated the wall of reticulum ( Kı ) and most perforation medially towards the Liver.

Fig. 2: The ingested wire perforated the Liver.

Fig. 3: Hepatic abscess, note the thick white caseous exudates (Creamy pus).

Fig. 4: Foreign body granuloma, note the granulomatus inflammatory exudates cantains multinucleated giant cells Kı and mononuclear inflammatory cells (Macrophages Kı, Lymphocytes Kı, Plasma cells Kı and epitheloid cells), (H&E 450 X).

Fig. 5: Hepatic abscess note the liquifactive necrosis infiltrated with inflammatory cells Kı surrounding by fibrous capsule Kı, (H&E 165X).

Fig. 6: At higher magnification of the upper Fig Hepatic abscess consist of an infiltrate of neutrophils and necrotic tissue debris (H&E 370X).
Discussion

This case report describes an unusual position and penetration of metallic wire embedded in the liver which was found incidentally during post mortem inspection at a slaughterhouse. This report showed granulomatous reaction as the most common complication of traumatic injury caused by foreign body (3). Penetration of foreign body soft tissue followed by acute inflammation and formation of granuloma. Granuloma is a non-specific type of inflammatory responses which may be triggered by diverse antigenic triggering agents causing activation of the cellular immune system (T lymphocytes and macrophages) so granulomas formed as a result of the complex interaction of cytokines produced by these cells (5). This result agreed with the result stated by (6-10). While liver abscesses may be caused by traumatic reticulo peritonitis due to direct trauma by foreign body or as consequence of extension of lesions of peritonitis (11). Also liver abscess seen as a result of invasion of pus producing bacteria which usually accompany foreign body injuries, This result also reported by (12,13).

References


