Indian Vet. J., January 2018, 95 (01) : 95 - 96

Gamna Gandy Bodies in the Spleen of a Dog

M.Thangapandiyan[1], Swati Choudhury, C.Balachandran and R.Sridhar

Department of Veterinary Pathology, Madras Veterinary College, Chennai-600007.

(Received : 19-04-2017 **137/17** Accepted : 12-05-2017)

Abstract

Necrospy examination of a thirteen years old male spitz dog revealed splenomegaly and contained irregular, slightly raised, yellow or greyish white hard nodule like lesions on the both parietal and visceral surface of the spleen. Based on the gross and histopathology and special stain this case was diagnosed as Gamna-Gandy bodies (siderofibrotic plaques) on the spleen associated with portal hypertension.

Key words: Gamna gandy bodies, Spleen, Dog.

Splenic siderofibrotic nodules or Gamna-Gandy bodies (GGB), are small yellowbrown, brown, or rust-colored foci found in the spleen. The pathophysiological process is the result of microhaemorrhage resulting in haemosiderin and calcium deposition followed by fibroblastic reaction. GGB are characterised by innumerable circumscribed nodules of a few millimetre with dark haemorrhagic centre surrounded by a pale hyperemic rim followed by an outer dark rim. This gives an appearance resembling "tobacco flecks" (Ryseff *et al.,* 2014).

Materials and Methods

A thirteen years old male Spitz dog was presented for necropsy with the history of vomition, ataxia and anaemia. Postmortem examination revealed splenomegaly and revealed irregular, slightly raised, yellow or greyish white hard nodule-like lesions almost covering the entire capsular surface. The nodules varied in size from small foci (approximately 2 mm) to extensive encrustations covering large areas of the capsule.

Histopathologically, splenic lesion showed macrophages laden with dark golden brown globular haemosiderin pigment and fibrosis. In Perl's stain, they were seen as dark blue tinged bodies positive for haemosiderin pigments (Fig. I).

Results and Discussion

Gamna-Gandy bodies, so named after their discoverers Carlos Gamna and Charles Gandy are also known as siderotic plaques (Ryseff *et al., loc. cit*). Demonstration of central and Ubiquitous development of the encrustations of hemosiderin and calcium precipitates along with collagenous fibers were found in most of the literature which coincided with our findings along with or without presence of granulomatous foreign body in some cases (Ryseff *et al., loc. cit).* In humans, GGB are more commonly associated with portal hypertension, venous thrombosis, haemolytic anaemia and haemoglobinuria and it was associated with old age, haemangiosarcoma and haematoma in dogs (Cole, 2012).

There was splenomegaly and contained

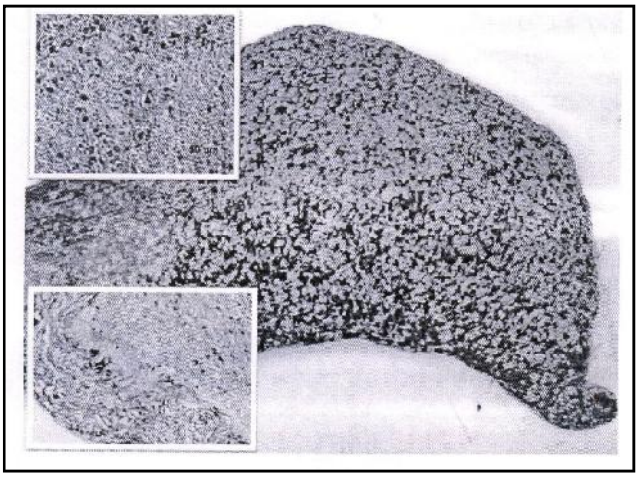

Fig 1. Spleen – irregular, yellowish white granular deposits on the capsular surface. Inset (Top) – dark brown haemosiderin pigment in H&E stain (bar=50 µm). Inset (Bottom) – Dark blue haemosiderin pigment in perl's stain (bar = 50 µm).

[1]*Corresponding author* : Email : sugigold@gmail.com

irregular, granular, raised yellowish white plaques. It represents the organized foci of parenchymal haemorrhage in the spleen caused due to longstanding portal hypertension. Splenomegaly may be due to hyperplasia of the reticulo-endothelial cells which cover the sinusoids followed by scarring of collagen and elastic fibers (Fry and McGavin, 2012).

Histopathologically, splenic lesion showed macrophages laden with dark brown to black colour globular haemosiderin pigment. It may be due to the prolonged transit time of the blood and consequent pressure increase and disintegration of cells leading to bleeding into the red pulp soaking into the reticulum. The collagen and elastic fibers which act as nidus for the deposition of haemosiderin forming Gamna-Gandy bodies. This confirms with the findings of Selcuk *et al.,* 2005. In perls' staining these plaques showed dark blue appearance confirming iron deposits.

Based on the gross pathology, histopathology and perl's staining this case was diagnosed as Gamna-Gandy bodies (Siderofibrotic plaques).

References

Cole, P.A. (2012) Association of canine splenic hemangiosarcomas and hematomas with nodular lymphoid hyperplasia or siderotic nodules. *J. Vet. Diagn. Invest.,* **24**: 759-762.

Fry, M.M. and McGavin, M.D. (2012) Bone marrow, blood cells and the lymphatic system. In: Zachary, J.F. and McGavin, M.D., ed. Pathologic Basis of Veterinary Disease. 5th edn. St. Louis, MO: Elsevier Mosby, pp.760.

Ryseff, J.K., Duncan, C., Sfiligoi, G. and Avery, P.R. (2014) Gamna-Gandy bodies: a case of mistaken identity in the spleen of a cat. *Vet. Clin. Pathol.* **43(1)**: 94-100.

Selcuk, D., Demrel, K., Kantarci, F. Mihmanli, I. and Ogut G., (2005) Gamna-Gandy bodies: A sign of portal hypertension. *Turk. J. Gastroenterol.,* **16(3)**: 150-152.