

Final degree project

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OBJECTIVES

The aim of this preliminary study was to retrospectively investigate the presence of likely *Bartonella* infection by Warthin-Starry stain in archived canine cardiac valves previously diagnosed with endocarditis as well as to describe the main clinical and histopathological findings.

MATERIAL AND METHODS

Selection process of the cases

178 records
Diagnet

32 records included:
"Endocarditis"

22 records included:
"infective
endocarditis of
bacterial etiology"

9 records included:
"etiological agent not
observed"

15 records diagnosed
with endocarditis
included

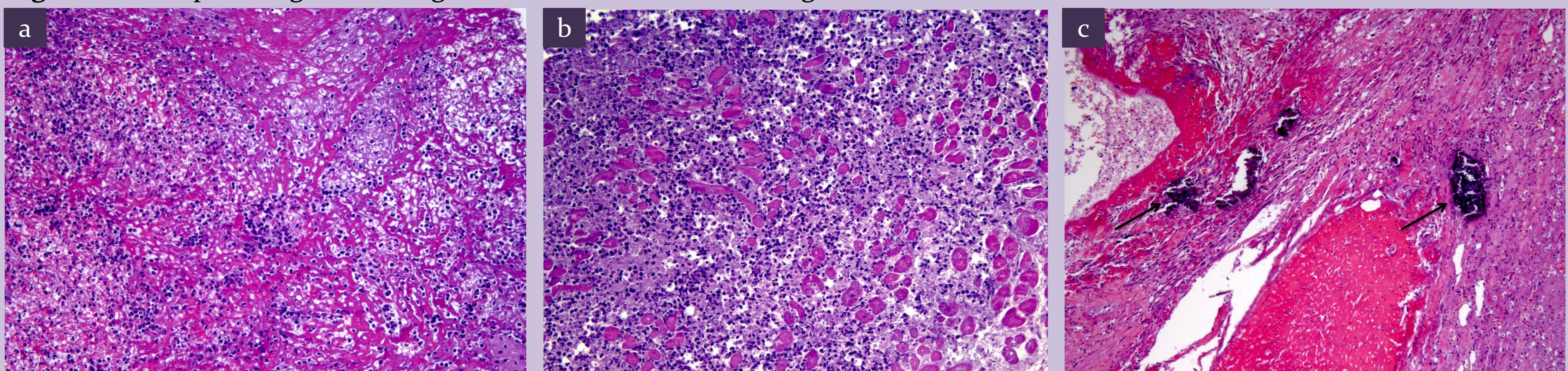
Hematoxylin and eosin
stain (H&E)

Warthin-Starry stain (W-S)

RESULTS

Figure 1. Histopathological findings with H&E and W-S stainings.

Hematoxylin and
eosin stain



Warthin-Starry stain

H&E results:

- ❖ Valvular endocarditis: Abundant inflammatory tissue with the predominance of neutrophils, in lesser extend macrophages and cellular necrosis (Fig 1. a).
- ❖ Myocarditis: neutrophilic inflammation, myocyte degeneration and necrosis (Fig 1. b).
- ❖ Valvular mineralization (arrows) present in four samples (Fig 1. c).

W-S results:

- ❖ Positive *Bartonella* (arrow) control in feline cardiac tissue (Fig 1. d).
- ❖ Positive W-S case: rod-shaped bacteria (Fig 1. e).
- ❖ Dubious W-S case: small rod-shape like bacteria (arrow) (Fig 1. f).

Presence of rod-shape like bacteria

Positive cases H&E → Positive W-S results (n=9)
(n=11)
Dubious W-S results (n=2)

↳ 2 cases with mineralization

Negative cases H&E → Dubious W-S results (n=4)
(n= 4)
↳ 2 cases with mineralization

CONCLUSIONS

- ✓ Infective endocarditis is a difficult-to-diagnose canine disease which can be caused by *Bartonella*.
- ✓ Cases suspicious of *Bartonella* infection based on histopathological findings and Warthin-Starry stain were obtained in the current preliminary study.
- ✓ Warthin-Starry stain could be a complementary diagnostic technique to support infective endocarditis diagnosis.
- ✓ Further molecular studies such as PCR or immunohistochemical analysis should be performed in order to obtain the definitive diagnosis.