

PRESUMPTIVE *BARTONELLA* INFECTION IN ARCHIVED PARAFFIN-EMBEDDED CARDIAC VALVES IN CANINE ENDOCARDITIS BY MEANS OF SILVER STAIN: A PRELIMINAR STUDY

Final degree project

Faculty of Veterinary Medicine, June 2018

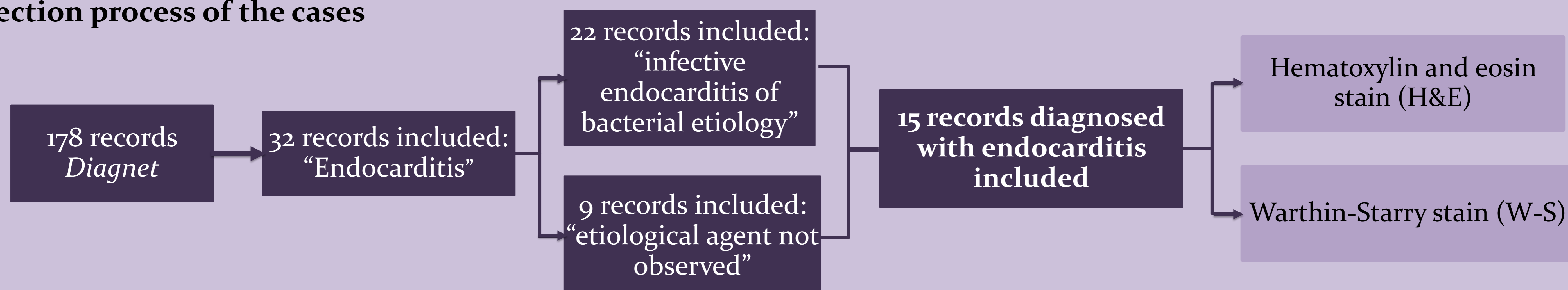
Berta Baulida Palomeras

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.

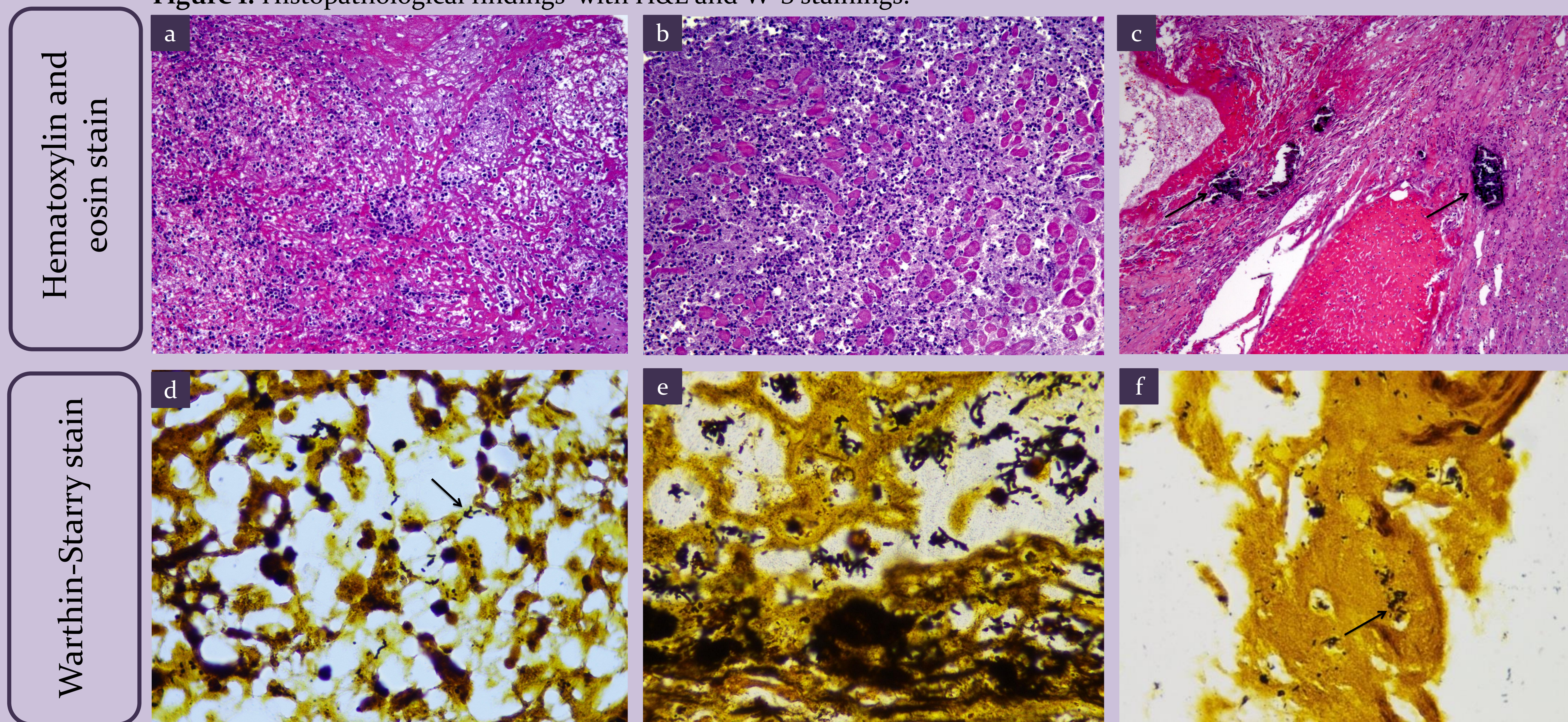
MATERIAL AND METHODS

Selection process of the cases



RESULTS

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



H&E results:

- ❖ Valvular endocarditis: Abundant inflammatory tissue with the predominance of neutrophils, in lesser extent 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 (n=11) → Positive W-S results (n=9)
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.