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INTRODUCTION

- ✓ Mammary gland tumours are frequent in bitches and, among them, inflammatory mammary carcinoma (IMC) stands out for malignancy.
- ✓ IMCs are characterised by rapid and invasive growth and are highly metastatic both in dogs and humans.
- ✓ Decorin (DCN) is an extracellular matrix protein that influences several cellular pathways, controlling tumorigenesis and regulating tumoral growth and metastasis in mice IMC models.
- ✓ This research aimed to evaluate DCN expression in IMCs and non-inflammatory mammary carcinomas (NIMC).

MATERIALS AND METHODS

Forty-one cases of NIMC and 28 of IMC were submitted to immunohistochemistry to detect DCN using a rabbit polyclonal anti-DCN primary antibody (NBP1-57923, Novusbio®). Five images from random high-power fields (40x objective) and from 5 hot spots were captured from the intratumoral areas for each case. Immunostaining was evaluated in scores regarding the percentage of the ECM-positive area and intensity.

RESULTS

The most frequent histological subtypes were solid-type carcinoma and comedocarcinoma (6/28, 21.4% each) among the IMCs, and complex carcinoma (17/41, 41.5%) in the NIMCs group. We observed lower expression of DCN in IMCs compared with NIMCs, both in random and hot spot evaluations considering the scores for area and intensity.

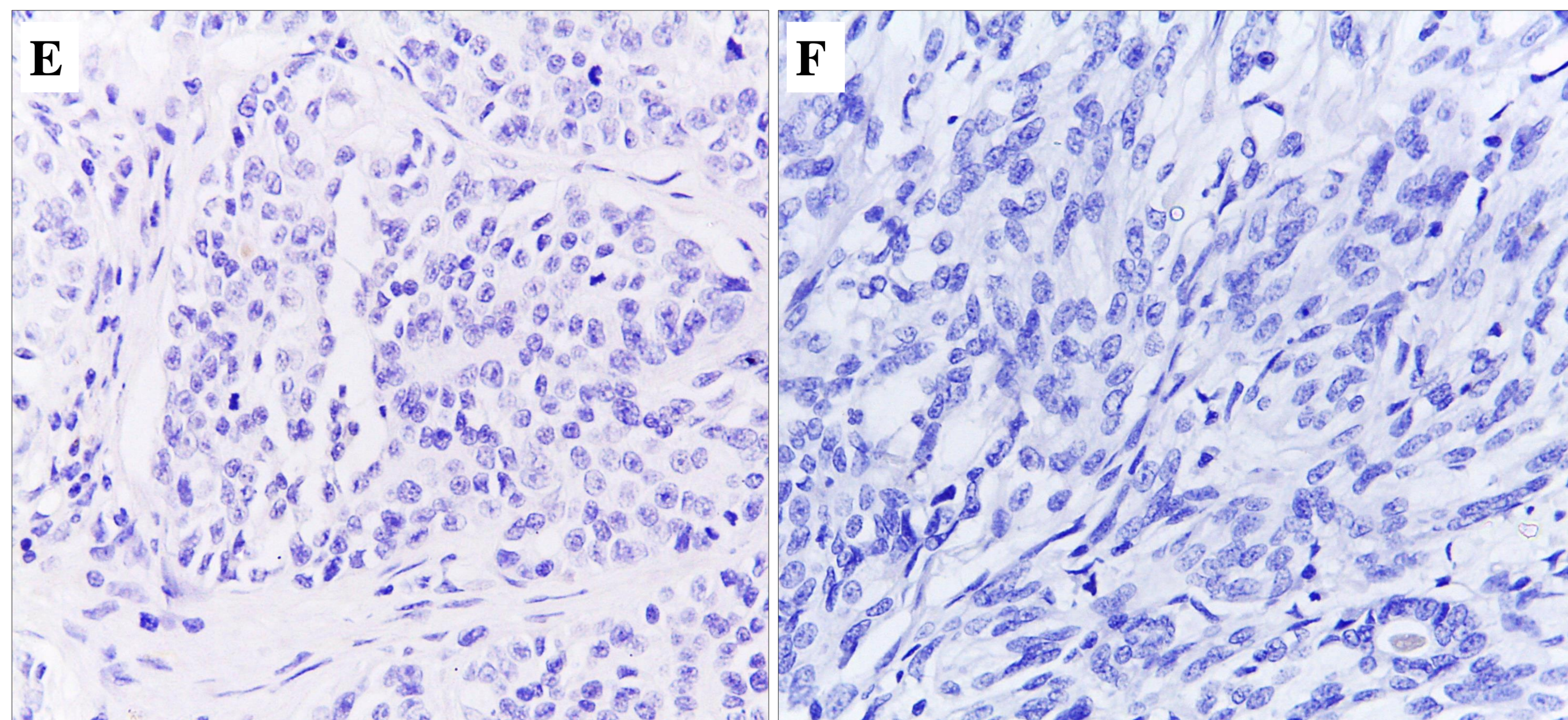


Figure 1 – Photomicrographs showing (A) and (B) positive control with stromal expression of DCN in normal mammary gland. Obj. 4x. (C) and (D) expression of DCN in NIMC. Obj. 40x; and (E) and (F) absence of DCN expression in IMC. Obj. 40x. IHC, DAB, counterstained with Harris Haematoxylin,.

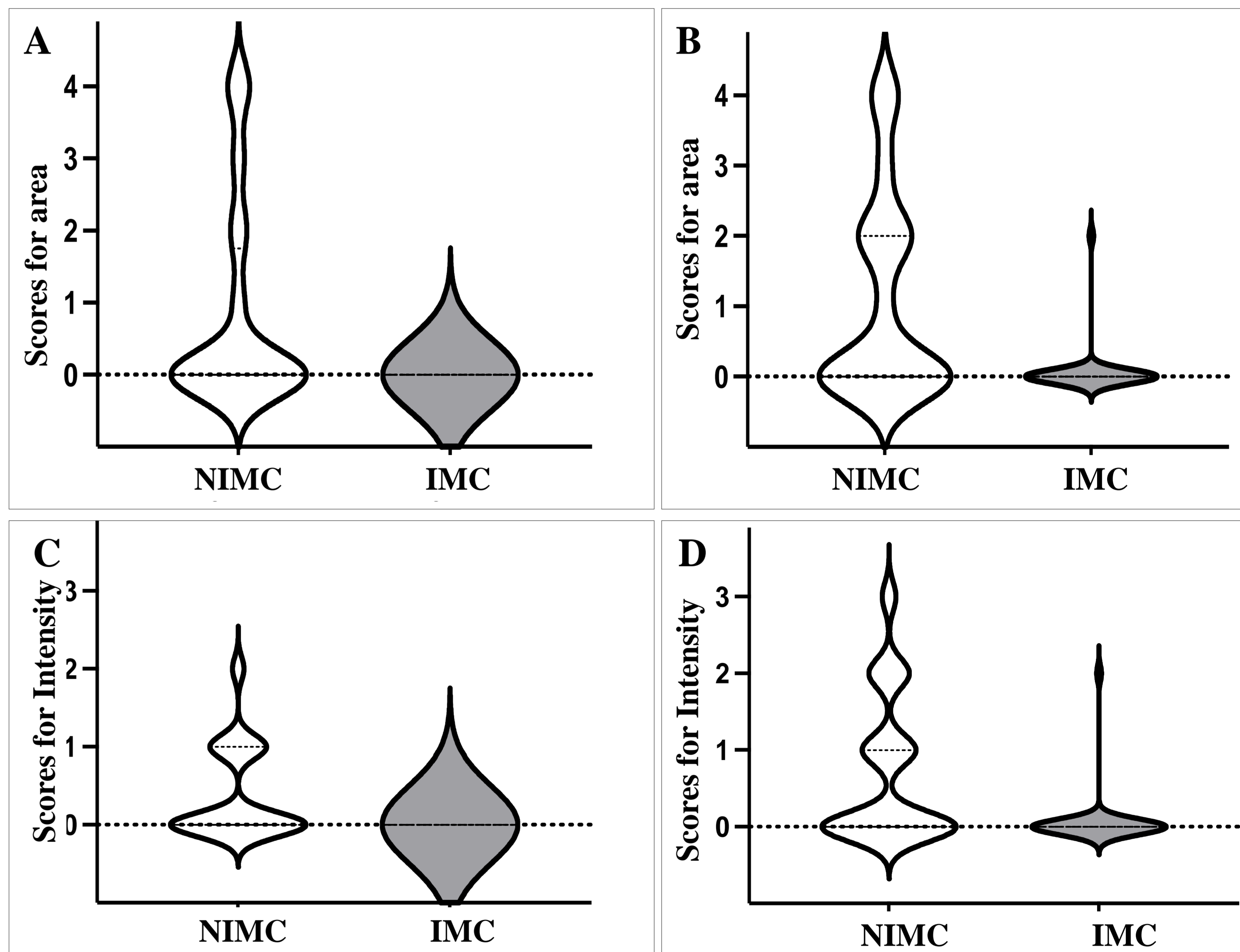


Figure 2 – Violin plots comparing the expression of DCN in IMCs and NIMCs: (A) Area of DCN expression evaluated in random fields ($p=0.0015$) and (B) in hot spots ($p=0.0002$); (C) DCN expression intensity evaluated in random fields ($p=0.0006$) and (D) in hot spot fields ($p=0.0003$). Mann-Whitney tests.

CONCLUSIONS

- ✓ IMCs express lower levels of DCN than NIMCs.
- ✓ These preliminary results suggest that DCN may have important roles in canine mammary carcinomas and be a potential prognostic marker for the disease.

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