



San Marco

# ULTRASONOGRAPHIC AND CLINICOPATHOLOGICAL FEATURES OF FELINE INFECTIOUS PERITONITIS: A CASE-CONTROL STUDY OF 118 CASES



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**OBJECTIVES** Aim of this study is to describe the ultrasonographic (US) findings of FIP and to correlate them with laboratory findings.

**METHODS** In this single-center, 10-year-case-control study, cats with confirmed FIP (effusive, non-effusive) were included and their data compared with data from a matched group of cats with other diagnoses. Serum ALT, serum amyloid A (SAA), total bilirubin, and urea recorded. Differences between groups were analyzed with odds ratio and Mann-Whitney tests.

**RESULTS** 118 cats were included in each group. Besides the presence of effusion, thick/hyperechoic peritoneum (OR = 0.07,  $p < 0.001$ ), enlarged lymph nodes (OR = 0.36,  $p < 0.001$ ), "honey comb" spleen (OR = 0.34,  $p < 0.001$ ), hypoechoic liver (OR = 0.21,  $p < 0.001$ ), nephromegaly (OR = 0.14,  $p < 0.001$ ) and medullary rim sign (OR = 0.19,  $p < 0.001$ ) were more frequent in the FIP group. Distended intestine with fluid content was more frequent in the control group (OR = 4.54,  $p < 0.001$ ). Values of serum amyloid A (SAA) were higher in cats with FIP ( $p < 0.001$ ), while serum Urea was higher in the control group ( $p < 0.001$ ). Logistic regression showed 89% accuracy for the diagnosis of FIP.

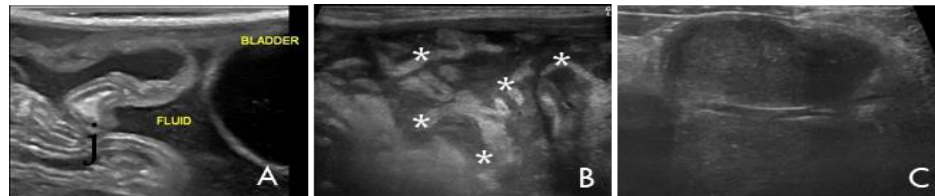


Fig.1 US findings in FIP cats (A) Abdominal effusion, (B) thick/hyperechoic peritoneum (asterisks), (C) mesenteric lymph node enlargement.

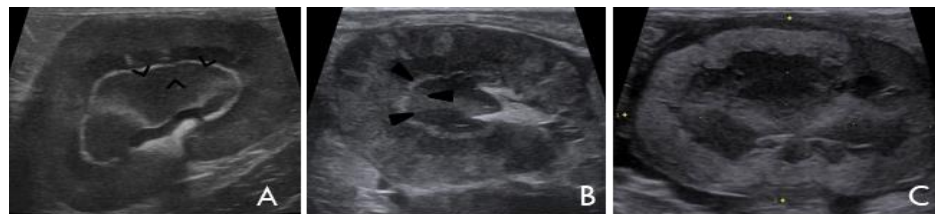


Fig.2 US findings in FIP cats . (A,B) Medullary rim sign and parenchymal abnormalities, C nephromegaly and presence of subcapsular renal fluid.

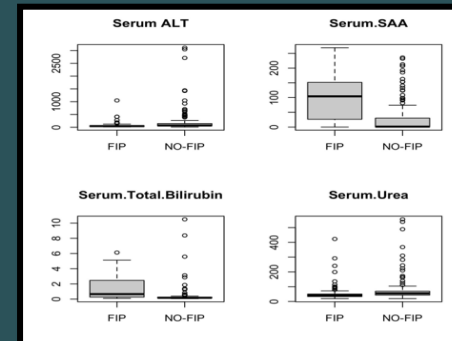


Fig.3 Boxplots of the four Serum parameters in FIP and control (NO-FIP) groups.

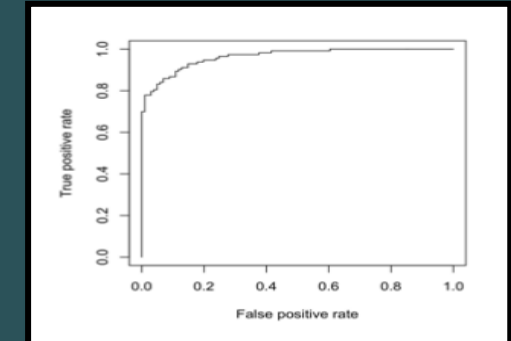


Fig.4 ROC curve and AUC for the fitted logistic regression model

**DISCUSSION/CONCLUSIONS** US features such as hyperechoic peritoneum, lymphadenomegaly, nephromegaly, medullary rim sign, honeycomb spleen and hypoechoic liver, together with high SAA and low serum urea levels, were frequently seen in cats with FIP and may help in the diagnosis, especially for non-effusive form.

