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Comparison between the diagnostic accuracy of clinico-pathological and molecular tests for feline infectious peritonitis (FIP)

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ABSTRACT

The aim of this study was to compare the diagnostic accuracy for feline infectious peritonitis (FIP) of conventional clinic-pathological tests with that of molecular tests such as routine PCR and PCR followed by the sequencing of the Spike (S) gene. Blood, effusion and tissues specimens were collected from 21 FIP suspected cats. *In vivo* examination consisted of CBC, serum protein electrophoresis, AGP measurement, cytological and biochemical examination and the evaluation of the Δ TNC on effusions, and of molecular tests such the screening PCR (target: 3'UTR region) and the PCR directed towards the S gene followed by the amplification products sequencing in order to detect the aminoacidic substitution recently considered diagnostic for FIP¹. These molecular techniques were applied to tissues collected during necropsy, which also allowed forming an FIP group (13 cats) and a non-FIP group (5 cats) based on histology and immunohistochemistry. The best test on tissues was immunohistochemistry (sens: 92.3%; spec: 100%), while the screening PCR suffered of low specificity (spec: 33.3%) and the S gene sequencing showed low sensitivity (sens: 69.2%). On effusions, the best tests resulted screening PCR and cytology (sens and spec: 100%) in comparison with the Δ TNC measurement (sens: 85.7 %; spec: 100%) and the S gene sequencing (sens: 42.8%; spec: 100%). On blood, the best test resulted AGP measurement (sens: 81.8%; spec: 100%), while serum protein electrophoresis showed a surprisingly low sensitivity (sens: 41.7%). Screening PCR (sens: 55.6%; spec: 100%) and S gene sequencing (sens: 33.3%; spec: 100%) proved again low accuracy.

REFERENCES

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