Therapeutic and lesional aspects of feline infectious peritonitis

Aspecte terapeutice şi lezionale în peritonita infecţioasă felină

Adrian C. Stancu
Facultatea de Medicina Veterinara Timisoara

Keywords: *cat, infectious peritonitis, lesional aspects*
Cuvinte cheie: *pisică, peritonită infecţioasă, aspecte lezionale*

Abstract

The prevalence of feline infectious peritonitis (FIP) can not be assessed on the basis of serological surveys because positive serological reagents rate does not correlate with disease rates. In units with more cats and numerous movements (input - output), the proportion of positive serological reagents is very high, and could reach, in some countries or regions at 50-75-100%, while among cats scattered near homes reactants rate positive to VPIF is well below 50%. Research conducted aimed at treating and determining evolutionary form of FIP based on pathological lesions in cats dead

Rezumat

Prevalenţa peritonitei infecţioase feline (PIF) nu poate fi apreciată pe baza unor anchete serologice, deoarece rata reactanţilor pozitivi serologic nu se corelează cu rata îmbolnăvirilor. În crescătoriile cu multe pisici sau multe mişcări (intrări - ieşiri), proporţia reactanţilor pozitivi serologic este foarte mare, putând ajunge, în unele ţări sau regiuni la 50-75-100%, în timp ce printre pisicile dispersate pe lângă casele oamenilor rata reactanţilor pozitivi faţă de VPIF este mult sub 50%. Cercetările efectuate au avut ca scop tratarea şi stabilirea formei evolutive a peritonitei infecţioase feline pe baza leziunilor morfopatologice în cazul pisicilor decedate.

Introduction

For feline infectious peritonitis (FIP) receptive are all cats, domestic and wild, large and small, but the disease is most commonly seen in domestic cat.

The receptors are young cats between 6 months and 2 years (with a peak incidence at 9-10 months) and those of improved breeds, regardless of gender.

Highest prevalence recorded in local disease of cats, especially in organized farms where inputs and outputs are permanently cats (pensions, specialized farms etc).

Aim of study

The researchers conducted aimed at treating and determining evolutionary form of FIP based on morphopathological lesions in the dead cat cases (2, 3, 5, 6, 7, 13, 16).

1. Materials and methods

The research was conducted during October 2010 - December 2010 on 5 cats, from animal protection association *Anime*d Arad. The suspicion for suspected feline infectious peritonitis occurred in clinical examination of cats when he noticed abdominal distension, which has seen the wave feel to the touch.

Since they have collected blood samples were dosed veto FIP test which showed in addition to the control line a second line which shows that test is positive (Figure 1).

Veto-test PIP Ab

Veto test is designed to detect antibodies against the virus commissioning of whole blood, serum or plasma (1, 8, 9).

After being absorbed in cellulose pad, antibodies bind to a complex colloidal FIPV N protein antigen conjugate pad forming Ag-Ac complex. This complex forms the complex Ag-Ac-Ag sandwich direct antigen binding protein of FIP in membranal N nitrocellulose. Test result may occur as C (control) and T (test) form lines if test uses immuno chromatography principles.

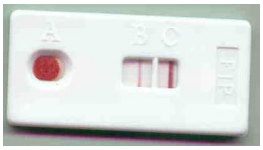

Figure 1. Positive FIP veto - test

Once confirmed the diagnosis, although the literature states that there is no effective therapeutic conduct in this disease, the cats have undergone a specific treatment that aimed immune system and fight secondary infections. It was made after a sketch in Table1.

Table 1

Therapeutic protocol applied in experiment

Nr. crt	Alamycin (tetracicline)	Depedine (prednisone+dexametasone)	Vitamin C	Glucose 5%
1	0.3 ml –3 days	0.3 ml – first day	1 ml–5 Days	250 mlThe day I and IV booster on
2				300 mlThe day I and IV booster on
3				250 ml- The day I and IV booster on
4				250 ml- The day I and IV booster on
5				300 ml- The day I and IV booster on

2. Results and Discussion

However, after a transient improvement status ,the end was fatal in all cases within 9 days after onset of illness.

Their bodies being necropsy through specific mammals technique.

At necropsy was showed a swelling of serous effusion, first the pleura and peritoneum.

In the serous cavity was observed accumulation of light-gray exudates, viscous fluid.

On the pleura and peritoneum surface were observed numerous necrotic foci measuring up to 3 mm. (4, 10, 11, 12).

Due to abundant exudates which lines the serous, occurred adhesions between the liver, diaphragm and bowel chances. (Fig. 2, 3, 4, 5)

The researches on the 5 corpses are shown schematically both tabular form and graphical form (Table 2, Fig. 7).

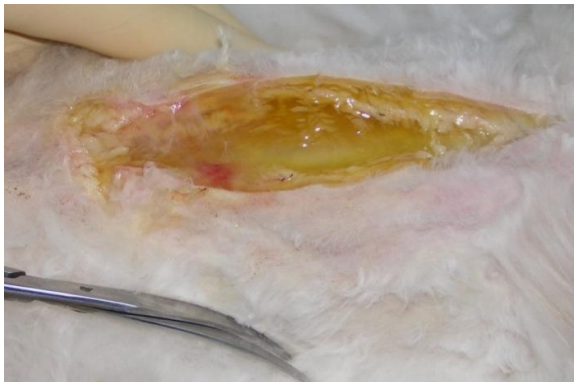

Figure 2. Viscous fluid in the abdominal skin detachment (PIF)

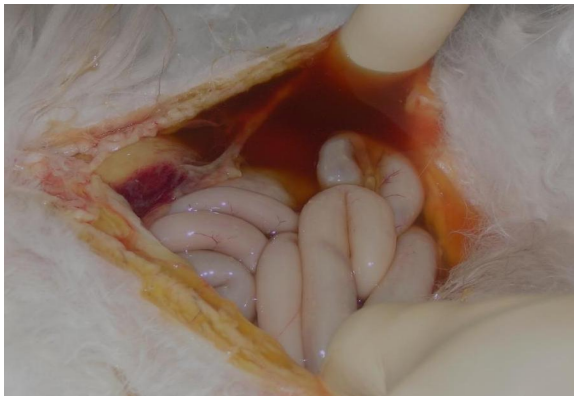

Figure 3. Serohemoragic exudate opening the abdominal cavity (PIF)

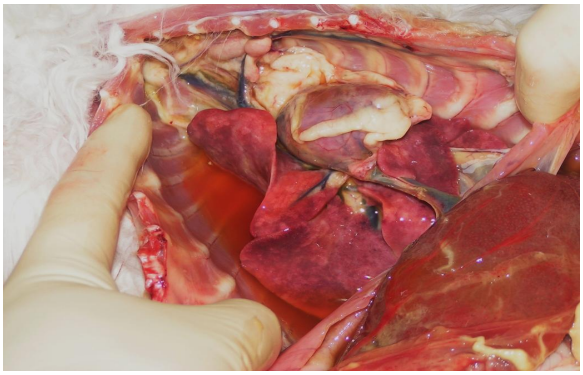

Figure 4. Serohemoragic exudate opening the thoracic cavity (PIF)

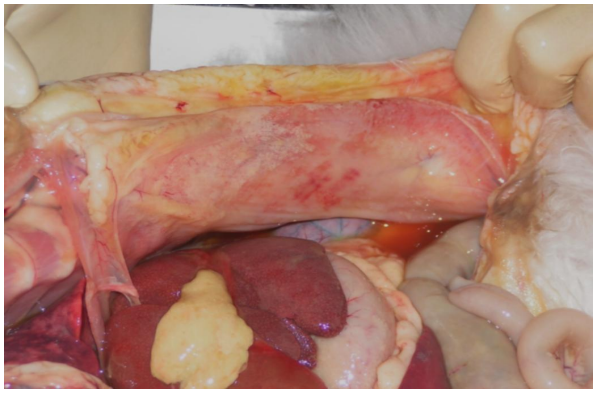

Figure 5. Adhesions between the liver, diaphragm and bowel chances (PIF)

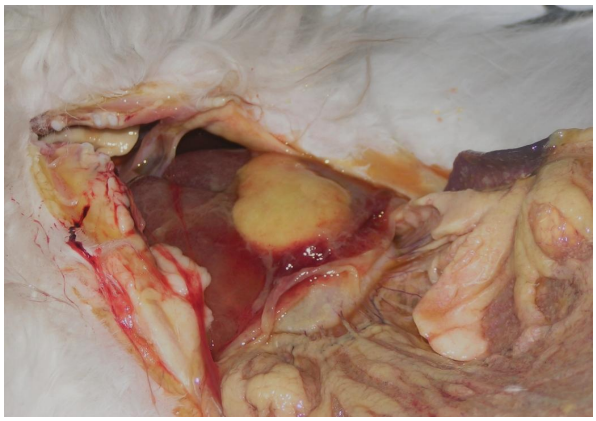

Figure 6. Adhesions between the liver and diaphragm serous necrosis (PIF)

Table 2.

The picture lesion and test results FIP

Nr. crt	Presentation	Location exudate	Location adhesions	Location foci of necrosis	Vetotest
1	Effusion form	Thoracic and abdominal cavity	Hepato-diaphragmatic and intestinal	Pleura and peritoneum	+
2	Effusion form	Thoracic and abdominal cavity	Hepato-diaphragmatic and intestinal	Pleura and peritoneum	+
3	Effusion form	Thoracic and abdominal cavity	Hepato-diaphragmatic and intestinal	Pleura and peritoneum	+
4	Effusion form	Thoracic and abdominal cavity	Hepato-diaphragmatic adhesions	Pleura	+
5	Effusion form	Thoracic and abdominal cavity	Hepato-diaphragmatic adhesions	Pleura	+

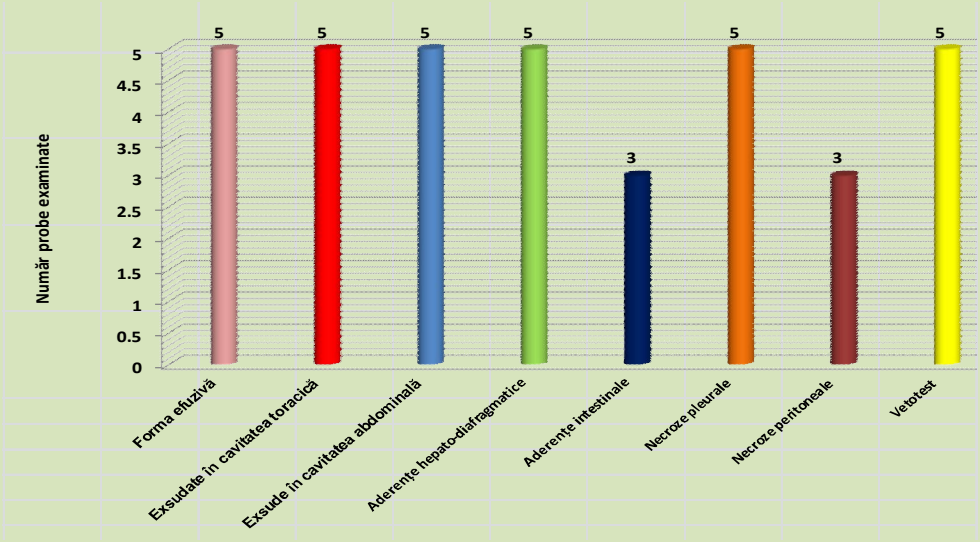

Figure 7. The picture lesion and test results FIP

Discussion

With all the treatment attempts none of the 5 cases was saved. As the literature indicates, the highest sensitivity to the disease has cats from organized farms where there is constant movement effectively (14, 15, 17).

In this case the cats came from an association for the animal protection.

Because the specific prophylaxis was not put up until now, the only measure of disease remains avoidance avoid as much as possible crowded areas cats.

Conclusions

- In all 5 cases with FIP test was positive.
- Treatment feline infectious peritonitis did not work, fatal disease in all cases.
- Perform necropsy revealed pleural lesions form.
- In all 5 cases found the presence of exudate in the abdominal cavity and the chest cavity.
- Hepatodiafragmatic adhesions were present in all 5 cadavers, and the gut in three of the five bodies.
- The presence of foci of necrosis has been reported in the pleura in all 5 cadavers and the peritoneum only 3 bodies.

Bibliography

1. **Alexander DJ, Gough RE** (1977). Res. Vet. Sci. 23:344.
2. **Bohl EH, Saif LJ** (1975), Infect.Immunol.,11, 2.
3. **Bran L, Mihăilă S, Marinescu I, Albu T, Bercan A** (1981), Prob. zoot. si vet., 7, 33.
4. **Brunt J; Hoskins J, Lutz H, Norsworthy G, Greul J, Hoskins, Jd, Lutz, H; Norsworthy, HG** (1995) Feline infectious peritonitis. Supplement to the Compendium on Continuing Education for the Practicing Veterinarian.
5. **Cavanagh D, Davis PJ, Mockett APA** (1998), Virus Res., 11:141.
6. **Coman T, Teusdea V,Ciobănucă V, Epuran R** (1996), Buletin Informativ SMVPA, 7/4:1.
7. **Cunningham CH** (1970), Adv. Sci. Comp.Med.,14:105.
8. **Davelaar FG, Kouwenhoven B, Burger AG.** (1984), Vet. Q, 6:114.
9. **Evermann J; Henry C, Marks SI** (1995). Feline infectious peritonitis. Journal of the American Veterinary Medical Association, 206 (8):1130-1134.
10. **Fehr D, Holznagel E, Bolla S (**1997) Placebo-controlled evaluation of a modified live virus vaccine against feline infectious peritonitis: Safety and efficacy under field

conditions. Vaccine. 1997; 15(10):1101-1109. 1997; 15 (10):1101-1109.

11. **Foley JE** (2005) Feline infectious peritonitis and feline enteric coronavirus. In Ettinger, SJ; Feldman EC (eds.): Text book of Veterinary Medicine. WB Saunders Co. Philadelphia, PA; 663-666.
12. **Ford RC** (2008). FIP: More Complex Than We Thought. Presented at the American Veterinary Medical Association Conference, 2008, New Orleans, LA.
13. **Gough RE, Randall CJ, Daglless M, Alexander DJ, Cox WJ, Pearson D** (1992), Vet.Rec., 130:493.
14. **Greene CE** (1998), Infectious Diseases of the Dog and Cat, II th edition, W.B. Saunders Company,Philadelphia, London, Toronto, Montrel, Sydney,Tokyo.
15. **Hoskins, JD** (1997). Update on Feline coronavirus disease. In August, JR (ed.) Consultations in Feline Internal MedicineWB Saunders Co Philadelphia, PA, 1997; 44-50.
16. **Moga Mânzat, R, Ştiube P**. (2005), Boli produse de virusuri din familia. Coronaviridae. Cap. 17 pag. 306-337 coordonator Moga- Mânzat R. Boli infecţioase ale animalelor, Brumar-Timişoara.
17. **Pedersen NC, Addie D, Wolf A** (1995). Recommendations from working groups of the International Feline Enteric Coronavirus and Feline Infectious Peritonitis Workshop. 23(3): 108-111.
18. **Reynolds C, Macy D** (1997). Feline infectious peritonitis. Part I. Etiology and Diagnosis. Compendium of Continuing Education for the Practicing Veterinarian. 19 (9):1007-1016.
19. **Scott FW** (1997). Feline infectious peritonitis. In Tilley, LP; Smith, FWK (eds.) The 5 Minute Veterinary Consult. Williams and Wilkins. Baltimore, MD. 586-7.
20. **Sherding RG** (2004). Feline infectious peritonitis. In Birchard, SJ; Sherding, RG (eds.) Saunders Manual of Small Animal Practice 2nd ed WB Saunders Co Philadelphia, PA, 2004, 91-96.
21. **Stoddart ME; Bennett M** (1994). Feline coronavirus infection. In Chandler, EA; Gaskell, CJ; Gaskell, RM (eds.) Feline Medicine and Therapeutics. Blackwell Scientific Publications. 506-514.
22. **Van Regenmortel MHV, Fauquet CM, Bishop DHL, Carsten EB, Estes MK, Lemon SM, Manllofl J, Mayo MA** (1999), Virus Taxonomy.Seventh Report of the International Committee on Taxonomy of Viruses Virology Division. International Union of Microbiological Societies int, http://life.bio2. columbia.edu/ report7.htm.
23. **Vasiu C** (2003). Viroze si boli prionice la animale. Ed. Nereamia Napocae.
24. **Vior C, Rusu V, Stoenescu Virginia** (1981). Rev. de Zoot. si Med.Vet., 9:72.
25. **Volintir V, Moga Mânzat R, Garoiu M, Jivănescu, I., Popescu I, Popa O, Nica P** (1968), Rev. de Zoot. si Med. Vet., 5,47.
26. *** www.aafponline.org.
27. *** (1992), Manual of Standards for Diagnostic Tests and Vaccines, 2ed edition.
28. *** (1998) The Merck Veterinary Manual, VIII-ed,Merck & Co., Inc., Whitehouse Station, N.J.
29. ***http://www.draddie.com/WhatIsFIP.htm#WhatisFIP; (accesat februarie 2011),
30. ***http://www.peteducation.com/article.cfm?c=1+2134&aid=212(accesat februarie 2011).
31. ***http://www.scribd.com/doc/36784378/Patologie-felina(accesat februarie 2011),
32. ***http://www.vetmed.auburn.edu/feline_infectious_peritonitis_virus2(accesat februarie 2011).
33. *** http://www.winnfelinehealth.org/Health/MT08-004_FIP_Report.pdf&rurl(accesat martie 2011).
34. ***http://www.winnfelinehealth.org/Pages/FIP_Web_2010.pdf(accesat martie 2011),
35. ***http://abcd_vets.com/factsheet/ro/pdf/RO_FIP_Peritonita_Infectioasa_Felina.pdf(accesat martie 2011).
36. ***http://www.vetmed.ncdavis.edu/ccah/documents/FIP_Synapsis_Jan13_09.pdf. (accesat martie 2011)