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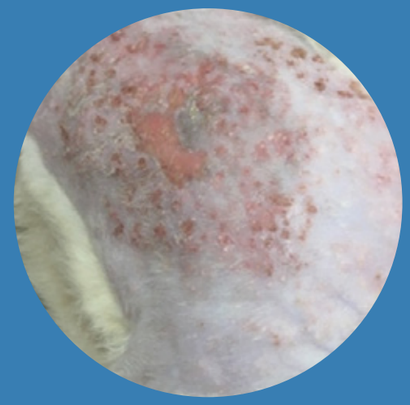

USE OF PCSO-524® (ANTINOL®) AND ANTIPRURITIC DRUG FOR TREATMENT OF ITCH CAUSED BY FLEA ALLERGY DERMATITIS (FAD) AND PSYCHOLOGICAL ALOPECIA IN DOMESTIC SHORT HAIR CAT

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Abstract

Etiology of skin disease in cats is various and including internal and external factors. The cat in this case was affected with skin disease caused by flea allergy dermatitis (FAD) and psychological alopecia. Skin examination found flea and secondary bacterial infection of the skin which was constantly licked by the cat. Holistic treatment was the choice of treatment in this case. Medical treatment was applied to the cat and environments surrounding the cat was managed. PCSO-524® (Antinol®) in combination with other antipruritic drugs was used to relieve itch and inflammation of the chronic skin disease and to strengthen the skin. During 210 days of the study, environment was managed and intensive parasitic control was applied to every cat in the house in order to control flea. The study showed efficacy of PCSO-524® (Antinol®) for treatment of skin inflammation, strengthening the skin, and itch relief. During day 160-210 of the treatment, administration of other anti-itch drugs was terminated due to psychological alopecia that caused constant licking by the cat.PCSO-524® (Antinol®) was recommended in this case since it can be used for long-term treatment without adverse effects. The study concluded that PCSO-524® (Antinol®) in combination with other antipruritic drugs and environmental management is effective for treatment of flea allergy dermatitis in cats affected with psychological alopecia.

Keywords:

Flea allergy dermatitis (FAD),Psychological alopecia, antipruritic drug, PCSO-524® (Antinol®)

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Introduction

Pruritus and alopecia in cats are skin diseases caused by various factors including internal and external factors. Both factors are important for diagnosis, treatment and prevention of the disease. This case study demonstrated integration of management of internal and external factors for the best treatment effect.

Internal factor is the cat itself and its behavior. Stress is an influential factor that induces over-grooming behavior of cat and results in psychological alopecia. This behavior can be found in 14% of the cats affected with immune-related skin disease (Waisglass et al., 2006). Stress can increase secretion of cortisol and consequently cause immunity imbalance and increased inflammatory response of the wound. External factors are disease, environment, diet, and care provided by the owner.

Skin disease causing itch and alopecia in cats can be classified by etiology into 3 groups; infectious disease, immunocompromised disease, and genetic and hormonal disorder. The most common skin disease in cats is the immunocompromised disease, which can cause alopecia in 76% of cases (Waisglass et al., 2006). Flea allergy dermatitis (FAD) accounts for 20% of cases in this group (Hill et al., 2006).

Flea is the most common external parasite that is found worldwide and more common in cats compared to dogs (Bond et al., 2007). Pathological mechanism of flea allergic dermatitis is initiated by the secretion of flea saliva during the bite. The secretion is an allergen that causes hypersensitivity (Wilkerson et al., 2004) resulting in itch and skin inflammation. Constant licking at the lesion as a result of increased stress and secondary infection may occur.

Objective of this case study is to demonstrate the treatment effect of PCSO-524® (Antinol®) in combination with other systemic antipruritic drugs for reducing skin inflammation and strengthen the skin in domestic short hair cats suffering from flea allergy dermatitis (FAD) and psychological alopecia.

Case history

Kanchon is a domestic short hair cat aged 4 years, weighed 4 kg, that lives in plant farm habitat with the other 3 cats. He is submissive and occasionally bitten by other cats outside the house. All the cats spend time 20% inside the house and the other 80% outside the house. Sometimes the cats are kept in restricted area which is an outdoor cage. The cats never miss annual vaccination, which include feline panleukopenia, flu, leukemia and rabies. The cats also receive regular deworming and occasional flea control every 2-3 months. The cats eat regular cat diet. The only cat that was sick was Kanchon, of which the owner noticed constant itch and licking at the wound for about 1-2 months prior to the visit.

Prior to this hospital visit, the cat was having chronic skin disorder that caused intermittent incident of pustule. Chlorhexidine scrub, topical betadine, oral and injection of antibiotics was administered before but the response was poor.

Examination

Physical and hematological examination on day 0 of the treatment found following results.

Examination	Result	Diagnostic plan and picture
Physical examination	- Pink mucous membrane and CRT < 2 sec - Pain at right hind limb lesion - Mild fever (102.8 °F) - Flea dirt and flea on the back	 day 0
CBC and Biochemistry profile	- Normal (blood profile in Table 1 and 2)	
Dermatological examination	- Eosinophilicplaque with purulent exudate, pustule and erythema on right hind limb - Pruritus score 8/10	
Cytology	- impression smear showed pyogranulomatous infection with cocci bacteria at right hind limb lesion (degenerative neutrophil and macrophage) - Deep and superficial skin scarping did not find abnormality - Ear cytology examination did not find abnormality	1. Bacterial culture and drug sensitivity 2. Fungal culture

Note: Bacterial culture and drug sensitivitytest are for identification of bacterial species since several antibiotics were administered for a long time period and the most appropriate drug must be selected based on the test. Fungal culture is for identification of infection caused by fungi

Physical and cytological examination on day 0 detected fever, flea and flea dirt at the back of the cat and pyogranulomatous infection with cocci bacteria. Differential diagnosis includes the followings;

	Differential diagnosis	Supportive reason or Evidence
1	Deep pyoderma	Pyogranulomatous infection with cocci bacteria was found by cytological examination
2	Flea allergy dermatitis	Flea and flea were found on the cat. Flea control was not applied regularly.
3	Mosquito bite hypersensitivity	The owner interview on house environment indicated high number of mosquito and the lesion was found only in the area not covered by hair
4	Self-induced alopecia or Psychological alopecia	The owner informed that the cat was submissive and occasionally bitten by other cats when leaving the cage or the house. The cat always licked bitten wounds and groomed himself.

Treatment provided on day 0 are as follows;

Drug	Dosage	Duration
Tolfenamic acid (Tolfedine® 60mg) for fever and inflammation control	1/4 tab (2.2-4.4mg/kg) sid po pc	3 days
Amoxicillin clavulanic acid (Amoclavmed® 62.5 mg) for control of bacterial infection prior to completion of bacterial culture and drug sensitivitytest results	1 tab bid (15-25mg/kg) po ac	21 days
Fipronil 74.7 mg/(S)-methoprene 90.0 mg/ Eprinomectin 3.60 mg/Praziquantel 74.6 mg (Broadline® spot-on solution for cats) for flea control	For 2.5-7.5 kg	Every 1 month

Elizabethan collar was used to prohibit wound licking and the cage was covered with mosquito net.

Cytological examination and differential diagnosison day 21 of the treatment

Examination	Result	Diagnostic plan and picture
Physical examination	- Pink mucous membrane, CRT < 2 sec - BAR - Flea dirt was found but no flea	 day 21
Dermatological examination	- Papuleanderythema of right hind limb - Pruritus score 5/10	
Cytology	- Scotch tape technique found pyogranulomatous infection with cocci bacteria at right hind limb	

Bacterial culture, drug sensitivitytest and Fungal cultureshowed negative results which may due to error in sample collection or transportation. Cytological examination and response to antibiotic indicated that the cat had bacterial infection.

Response to treatment including antibiotic, flea control, mosquito net use, and Elizabethan collar use to prevent licking was satisfied.

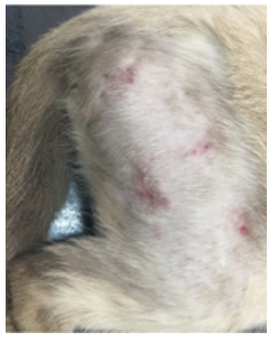
Differential diagnosis
1. Deep pyoderma
2. Flea allergy dermatitis
3. Mosquito bite hypersensitivity
4. Self-induced alopecia

Treatment provided on day 21 are as follows;

Drug	Dosage	Duration
Prednisolone (5mg) for pain relief and control of inflammation	½ tab (0.5-1.0mg/kg) sid po pc	30 days
PCSO-524(Antinol®) for inflammation control and skin strengthening	1 tab sid po pc	21 days
Amoxicillin clavulanic acid (Amoclavmed® 62.5 mg) for bacterial control	1 tab bid (15-25mg/kg) po ac	30 days
(Broadline® spot-on solution for cats) for flea control	For 2.5-7.5 kg	Every 1 month

Elizabethan collar was used to prohibit wound licking and the cage was covered with mosquito net.

Cytological examination and differential diagnosison day 50 of the treatment

Examination	Result	Diagnostic plan and picture
Physical examination	- Pink mucous membrane CRT < 2 sec - BAR - Flea dirt on the back but no flea	 day 50
Dermatological examination	- Erythema at right hind limb - Pruritus score 3/10	
Cytology	- Scotch tape technique did not find lesion at right hind limb	

Differential diagnosis

1. Deep pyoderma
2. Flea allergy dermatitis
3. Self-induced alopecia

At this step, mosquito bite hypersensitivity was excluded from the differential diagnosis list since the occurrence of lesion was not found after mosquito net was used to prevent mosquito bite. Control of infection was continued although bacteria was not detected at the lesion, antibiotic was maintained for another 1-2 months to eliminate pyoderma.

Treatment provided on day 50 are as follows;

Drug	Dosage	Duration
PCSO-524® (Antinol®) for inflammation control and skin strengthening	1 tab sid po pc	30 days
Amoxicillin clavulanic acid (Amoclavmed® 62.5 mg) for bacterial control Note: After absence of bacteria at the lesion, antibiotic was administered for additional 1-2 months at least for treatment of deep pyoderma	1 tab bid (15-25mg/kg) po ac	30 days
(Broadline® spot-on solution for cats) for flea control	For 2.5-7.5 kg	Every 1 month

Elizabethan collar was used to prohibit wound licking and the cage was covered with mosquito net.

Cytological examination and differential diagnosis on day 80 of the treatment

Examination	Result	Diagnostic plan and picture
Physical examination	- Pink mucous membrane CRT < 2 sec - BAR - Flea dirt and flea on the back	 day 80
Dermatological examination	- Erythema and papule at right hind limb Pruritus score 5/10	
Cytology	- Scotch tape technique found degenerative neutrophil with cocci bacteria at right hind limb	

Note: Flea infestation returned again so intensive parasite control program was applied to the other 3 cats in the house to replace the previous program that topical medication was applied once a month.

Differential diagnosis

1. Deep pyoderma
2. Flea allergy dermatitis (FAD)
3. Self-induced alopecia

Treatment provided on day 80 are as follows;

Drug	Dosage	Duration
PCSO-524® (Antinol®) for inflammation control and skin strengthening	1 tab sid po pc	30 days
Amoxicillin clavulanic acid (Amoclavmed® 62.5 mg) for bacterial control	1 tab bid (15-25mg/kg) po ac	30 days
Moxidectin+Imidacrid (Advocate®) for flea control in the other cats in the same house	4-8 kg	Every 2 weeks

Cytological examination and differential diagnosison day 100 of the treatment

Examination	Result	Diagnostic plan and picture
Physical examination	- Pink mucous membraneCRT < 2 sec - BAR - No flea dirt and flea	 day 100
Dermatological examination	- Eosinophilic plaque with purulent exudate, pustule anderythema with salivary stain - Pruritus score 5/10	
Cytology	- Scotch tape technique at right hind limb found degenerative neutrophil with cocci bacteria	

Note: The owner informed that the cat was missing from the cage after a meal and did not return for a few days. The collar was also missing during that period and therefore the wound was licked almost all the time until a new collar was installed.

Differential diagnosis

1. Deep pyoderma
2. Flea allergy dermatitis (FAD)
3. Self-induced alopecia

Treatment provided on day 100 are as follows;

Drug	Dosage	Duration
Prednisolone (5mg) for itch relief since the inflammation and itch were severe	½ tab (0.5-1.0mg/kg) sid po pc	30 days
Cetirizine (10mg) for itch relief	5 mg/cat sid po pc	30 days
PCSO-524® (Antinol®) for inflammation control and skin strengthening	1 tab sid po pc	30 days
(Amoclavmed® 62.5 mg) for bacterial control	1 tab bid (15-25mg/kg) po ac	30 days
Moxidectin+Imidacrid (Advocate®) for flea control in the other cats in the same house	4-8 kg	Every 2 weeks

Elizabethan collar was used to prohibit wound licking and the cage was covered with mosquito net.

Cytological examination and differential diagnosis on day 130 of the treatment

Examination	Result	Diagnostic plan and picture
Physical examination	- Pink mucous membrane,CRT < 2 sec - BAR - No flea dirt and flea	 day 130
Dermatological examination	- Erythema with salivary strain - Pruritus score 3/10	
Cytology	- Scotch tape technique did not find lesion at right hind limb	
CBC and Biochemistry profile	- Normal (blood profile is shown in Table 1 and 2)	Serum Fructosamine as measured to determine incident of diabetes mellitus since the wound healing was slow

Differential diagnosis

1. Deep pyoderma
2. Flea allergy dermatitis (FAD)
3. Self-induced alopecia

Treatment provided on day 130 are as follows;

Drug	Dosage	Duration
PCSO-524® (Antinol®) for inflammation control and skin strengthening	1 tab sid po pc	30 days
Cetirizine (10mg) for itch relief	5 mg/cat sid po pc	30 days
Amoxicillin clavulanic acid (Amoclavmed® 62.5 mg) for bacterial control	1 tab bid (15-25mg/kg) po ac	30 days
Moxidectin+Imidacrid (Advocate®) for flea control in the other cats in the same house	4-8 kg	Every 2 weeks

Elizabethan collar was used to prohibit wound licking and the cage was covered with mosquito net.

Cytological examination and differential diagnosis on day 160 of the treatment

Examination	Result	Diagnostic plan and picture
Physical examination	- Pink mucous membrane, CRT < 2 sec - BAR - No flea dirt and flea	 day 160
Dermatological examination	- Erythema with salivary strain - Pruritus score 3/10	
Cytology	- Scotch tape technique at right hind limb found broken hair shaft	

Differential diagnosis

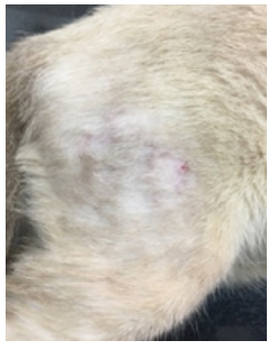
1. Flea bite hypersensitivity (FAD)
2. Self-induced alopecia

Treatment provided on day 160 are as follows;

Drug	Dosage	Duration
PCSO-524® (Antinol®) for inflammation control and skin strengthening	1 tab sid po pc	30 days
Moxidectin+Imidacrid (Advocate®) for flea control in the other cats in the same house	4-8 kg	Every 2 weeks

Elizabethan collar was used to prohibit wound licking and the cage was covered with mosquito net.

Cytological examination and differential diagnosis on day 190 of the treatment

Examination	Result	Diagnostic plan and picture
Physical examination	- Pink mucous membrane CRT < 2 sec - BAR - No flea dirt and flea	 day 190
Dermatological examination	- Erythema - Pruritus score 1/10	
Cytology	- Scotch tape technique did not find lesion at right hind limb	

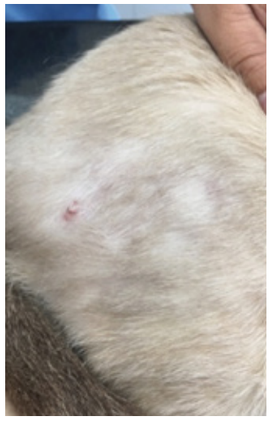
Differential diagnosis

1. Flea allergy dermatitis (FAD)
2. Self-induced alopecia

Treatment provided on day 190 are as follows;

Drug	Dosage	Duration
PCSO-524® (Antinol®) for inflammation control and skin strengthening	1 tab sid po pc	30 days
Moxidectin+Imidacrid (Advocate®) for flea control in the other cats in the same house	4-8 kg	Every 2 weeks

Cytological examination and differential diagnosis on day 210 of the treatment

Examination	Result	Diagnostic plan and picture
Physical examination	- Pink mucous membrane, CRT < 2 sec - BAR - No flea dirt and flea	 day 210
Dermatological examination	- Pruritus score 1/10	
Cytology	- Scotch tape technique did not find lesion at right hind limb	
CBC and Biochemistry profile	- Normal (blood profile in Table 1 and 2)	

Differential diagnosis

1. Flea allergy dermatitis (FAD)
2. Self-induced alopecia

Treatment provided on day 210 are as follows;

Drug	Dosage	Duration
PCSO-524® (Antinol®) for inflammation control and skin strengthening	1 tab sid po pc	30 days
Moxidectin+Imidacrid (Advocate®) for flea control in the other cats in the same house	4-8 kg	Every 2 weeks

Elizabethan collar was used to prohibit wound licking and the cage was covered with mosquito net.

The treatment at this step included environmental management and behavioral control. A collar was installed to prevent the wound from licking and intensive parasite control was applied for 3 months. Follow-up was scheduled to evaluate the progress of lesion and food elimination diet trial was recommended if the progress of lesion was detected

Discussion

This case study is focused on treatment of chronic skin disease caused by flea allergy dermatitis (FAD) in combination with self-induced alopeciaor psychological alopecia in cats. Both conditions are common problems in cats and complicated to control. The most interesting knowledge gained from this study is the step-by-step management strategy. The managed factor included internal factors such as itch, over-grooming, anti-itching and anti-inflammatory medication and external factors which are environments surrounding the cat.

Examination of internal factors from lesions of skin and hair using trichogram always found hair shaft split and salivary stain which indicated licking at the lesions. Therefore, psychological alopecia was diagnosed. The itch and licking later increased the degree of inflammation so the treatment was planned and included 1) Elizabethan collar to prevent the licking, 2) Keeping the cat in a cage at all time to prevent fighting with other cats and protect the lesion from licking by other cats, 3) Use itch relief and anti-inflammatory medication which included prednisolone cetirizine (Joya etal., 2012) and PCSO-524® (Antinol®). Each of the selected medication had different mechanism but the main focus was the use of PCSO-524® (Antinol®) for anti-inflammatory and antipruritic effects. The drug is rich in omega-3 and omega-6 thus effective for anti-inflammatory and antipruritic effects (S. Cerrato et al., 2013). The effect of the drug was apparent on day 160-210 of the treatment. In addition to the omega, another active ingredient is EFA, which is an essential element of epidermis and growth factor of hair shaft (Bensigner et al., 2008). PCSO-524® (Antinol®) is therefore enhance the treatment of skin disease and also can be used for long term without adverse effects (Pusoonthornthum, 2017). Blood chemistry and hematology test results are displayed in Table 1 and 2.

External factors, which include the disease and the environments, of this case are the flea and sensitivity to protein in flea saliva when the cat was bitten by the flea. The onset of mechanism of allergy depends on immunological response to allergen which is the protein in flea saliva (Wilkerson et al., 2004). The treatment principle is to eliminate exposure to protein in flea saliva by intensive parasitic control to reduce the number of flea using spot-on medication every 2 weeks and mosquito net. Recurrence of flea infestation can occur during the early treatment (R.G. Arther et al., 2005) because the other cats in the same house were not in the intensive control program and they were reservoir of the infestation. Later when the program was applied to the other cats in the house, the flea infestation disappeared for 2 months. Mosquito net prevented the cat from allergy to mosquito bite and also reduce the risk of flea transmission.

This case study has limitation in some aspects, for example, bacterial culture and drug sensitivity test that yielded negative results. The sample should be submitted again but was omitted since the antibiotic treatment result was satisfied. The flea allergy was also not confirmed by histopathology and intradermal skin test.

The further study should be focused on antipruritic and anti-inflammatory effect of PCSO-524® (Antinol®) in cases with other types of skin allergy. For example, a clinical experiment to evaluate the improvement of skin lesion before and after the treatment in a topic dermatitic cats.

Conclusion

The finding in this case study indicated that treatment of skin disease in cats needs integration of several factors. PCSO-524® (Antinol®) can be used with antipruritic drugs to treat flea allergy dermatitis (FAD). Ecological management is necessary for prohibition of the disease recurrence in psychological alopecia cats. During the early treatment in this case, the flea control was not intensively managed resulting in recurrence of flea infestation. Therefore, treatment of animal inconcurrent with environmental management is recommended.

Figures and tables showing hematological parameters before and after the treatment

Table 1. Hematological parameters before and after 100 and 200-day administration of PCSO-524® (Antinol®)

Parameter	Before	Day 100	Day 200	Reference
RBC (x10^6 cells/mm^3)	8.4	9.0	7.8	5-10
Hemoglobin (g/dl)	11.9	14.1	11.2	10-15
Hematocrit (%)	37	39	35	30-45
WBC (cells/mm^3)	8,800	7,600	8,600	5,500-19,000
Neutrophils %	68	57	76	35-75
Band %	0	0	0	0-2
Eosinophils %	9	8	6	2-12
Lymphocytes %	22	34	16	27-36
Monocyte %	1	1	1	0-5
Platelet (cells/mm^3)	206,000	294,000	360,000	200,000-600,000

Hawey, C. and Dennett, TB. (1983). Comparative Veterinary Hematology

Table 2. Blood chemistry before and after 100 and 200-day administration of PCSO-524® (Antinol®)

Blood chemistry	Before	Day 100	Day 200	Reference
SGPT (ALT) (U/L)	61	54	101	25-100
Creatinine (mg/dL)	1.3	1.4	1.5	0.9-2.2
BUN (mg/dL)	31	28	28	19-34
Alkaline phosphatase (U/L)	20	30	12	10-80

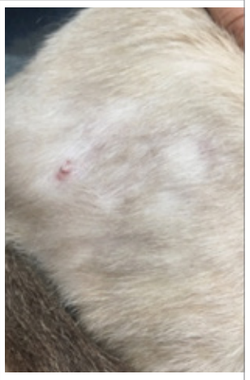
Hawey, C. and Dennett, TB. (1983). Comparative Veterinary Hematology

Table 3. Summary of lesion finding, diagnosis, and treatment on day 0, 21, 50, 80, 100, 130, 160, 190, and 210

Day	0	21	50
Lesion (picture)	 Eosinophilicplaque with purulent exudate, pustule and erythema	 Papule and erythema	 Erythema
location	Right hind limb		
cytology	Pyogranulomatous infection with cocci bacteria		Not found
Pruritus score (10/10)	8/10	5/10	3/10
Antipruritic drug	-	Prednisolone (5mg) ½ tab sid po pc (30d)	-
PCSO-524®	-	ON	
ectoparasite	Flea with flea dirt	flea dirt	flea dirt
Flea-control and behavior control	0nly 1 Cat Broadline® spot-on /1 month Elizabethan collar and mosquito net were installed		
Other treatment	Amoclavmed® 62.5 mg 1tab bid po ac (21d) Tolfedine® 60 mg ¼ tab sid po pc (3d)	Amoclavmed® 62.5 mg 1 tab bid po ac (30d)	Amoclavmed® 62.5 mg 1 tab bid po ac (30d)

Day	80	100	130
Lesion (picture)	 Papule and erythema	 Eosinophilic plaque with salivary stain (The cat was missing from home)	 - Erythema with salivary strain
location	Right hind limb		
cytology	Degenerative neutrophils with cocci bacteria		Not found
Pruritus score (10/10)	5/10	5/10	3/10
Antipruritic drug	-	- Prednisolone (5mg) ½ tab sid po pc (30d) - Cetirizine 5 mg/cat sid po pc	- Cetirizine 5 mg/cat sid po pc
PCSO-524®	ON		
ectoparasite	Flea with flea dirt	Not found	Not found
Flea-control and behavior control	All cats (Intensive control) (Advocate®/ 2 wk) Elizabethan collar and mosquito net were installed		
Other treatment	Amoclavmed® 62.5 mg 1 tab bid po ac (20d)	Amoclavmed® 62.5 mg 1 tab bid po ac (30d)	Amoclavmed® 62.5 mg 1 tab bid po ac (30d)

Table 3. Summary of lesion finding, diagnosis, and treatment on day 0, 21, 50, 80, 100, 130, 160, 190, and 210 (continued)

Day	160	190	210
Lesion (picture)	 -Erythema with salivary strain	 -	 -
location	Right hind limb		
cytology	Hair shaft broken	Not found	Not found
Pruritus score (10/10)	3/10	1/10	1/10
Antipruritic drug	-	-	-
PCSO-524®	NO		
ectoparasite	Not found		
Flea-control and behavior control	All cats (Intensive control) (Advocate®/ 2 wk) Elizabethan collar and mosquito net were installed		
Other treatment	-		

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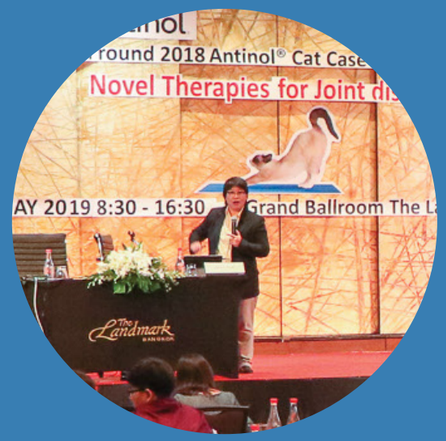

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NO. 3rd Nuanwan Rujirekasuwan, DVM	**KOREA TRIP 2019** USE OF PCSO-524® FOR CONTROL OF INFLAMMATION CAUSED BY IRIS TUMORAND UVEITISIN CATS WITH LYMPHOMA AND CHRONIC KIDNEY DISEASE

Private Animal Hospital

NO. 1st Mananya Danpitakkul, DVM Pitcha Pornmingmas, DVM Supattra Yongsiri, DVM	**VMX 2020** USE OF PCSO-524® ALONG WITH PHYSICAL THERAPY FOR CONTROLLING PAIN AND INFLAMMATION IN A CAT SUFFERING FROM OSTEOARTHRITIS, CHRONIC KIDNEY DISEASE AND TRIADITIS
NO. 2nd Sopon Sornsanit, DVM	**WVC 2020** USE OF PCSO-524® (ANTINOL®) AND ANTIPRURITIC DRUG FOR TREATMENT OF ITCH CAUSED BY FLEA ALLERGYDERMATITIS (FAD) ANDPSYCHOLOGICAL ALOPECIA IN DOMESTIC SHORT HAIR CAT
NO. 3rd Kanok Bamrungsri, DVM	**KOREA TRIP 2019** PCSO-524® (ANTINOL®) USE IN PERSIAN CAT WITH DYNAMIC HYPERTROPHIC OBSTRUCTIVE CARDIOMYOPATHY (HOCM)

GOOD DAYS START WITH Antinol®

Pharmalink and Vetz Petz® would like to thank everyone involved with the Antinol® research competition

At Pharmalink and Vetz Petz® we have a passion for Scientific Research and know that only this type of scientific proof is good enough to prove the benefits of ANTINOL® to the Veterinary community and owners alike. We also share the Vets passion for providing the best care for companion animals. This level of care and the credibility that goes with a Veterinarians recommendation cannot be achieved in good conscience if we do not have the participation and co-operation of the scientific community and Veterinarians alike. So we will continue to provide funding for projects that help companion animal owners and their Veterinarians to provide the best care for our beloved companion friends.

We would also like to offer a special thanks to ALL the committee members, Dr. Achinee and DKSH for their hard work organizing and hosting this very and unique event. You have graciously PROVIDED your time and vast experience and for that we thank you VERY much.

This project is the first of its kind for Pharmalink and Vetz Petz® and we are very excited about the research opportunities that have been shown as result of this competition. The future of Antinol® research is very bright and we are very thankful to everyone in loved.

John Dennis Waitzer
Director
Pharmalink International Limited

Nathan Mclean
Director
Pharmalink International Limited

Kevin Cook
President
Vetz Petz® group

Antinol® Contest has been organized successfully for 3 years since 2016 in Thailand. The key objective of this scientific contest is to encourage knowledges sharing amongst the Vet practitioners on how to treat the companion animals inflammatory cases safely & effectively by using Antinol® in conjunctive with others medicines especially the NSAIDs (Non Steroidal anti-inflammation drugs) which is the drug of choices of anti-inflammatory problems. However as we know apart from the high efficacy of NSAIDs it also can cause serious side effects such as renal or liver damage if it's used too long or no close monitoring when applied in animals.

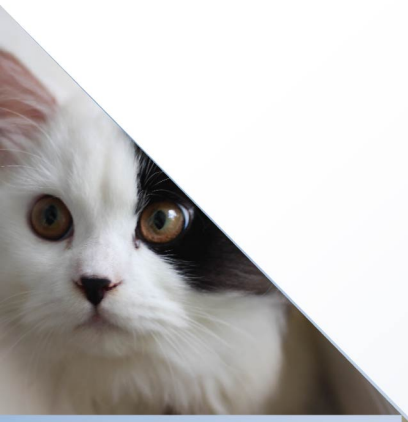
Recently we have seen the increasing trend of cats populations adopted as the companions ; Cat is the specie that has quite limited type of anti-inflammatory drug with safely applied. Therefore 2018 Antinol contest would like to promote the Vet practitioners to share their knowledges and experiences of using Antinol® as the drug of choices of anti-inflammatory cases in cats to demonstrate the option of safe and effective treatment which has been very successful applied as the combined therapy from different cases study in this contest resulted Antinol® is become commonly used as the safe choice of anti-inflammation in cats.

Dr. Achinee Runcharoen
DVM
CEO ASIA

DKSH

Vetz Petz Antinol

2018 Antinol®
Cat Case Study Contest



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