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Infestation of *Oxyuris equi* in horse and its successful therapeutic management

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Abstract
A seven years old Thorough English breed white in colour stallion was presented in T.V.C.C of C.V. Sc & A.H, OUAT BBSR. About 400kg body weight owner's chief complaint was, severe itching in hind quarter, Anorexia since 2 days and Hair loss and Rubbing of the tail and perianal region. horse was treated with fenbendazole (fentas 1.5gm 2 boli) @7.5mg /kg body wt and repeated after 15 days oxytetracycine@10mg/kg body wt to combat secondary bacterial infection for 3 days. Supporative therapy with vitamin A, D, E, B complex (Intavita H) alternative days for 3 week and chlorpheneramine maleate (Anistamin) 10ml once for 3 days each was given intramuscularly to reduce pruritus with local antiseptic potassium permanganate.$KMNO_4$ 0.1%.

Keywords: Pruritus, alopecia, edema, erythema

Introduction
Oxyuris equi, the equine pinworm, is classified in the super family Oxyuroidea. It has a global distribution and is found on every continent where horses are raised. Pinworm infections are reported to be far more common in weanlings, yearlings and young adults compared to mature or geriatric horses [1].O. equi appears to be more prevalent in working equids compared to leisure and sport horses [2]. equi begins when a susceptible equid ingests infective, larvated eggs from the environment. Ingested eggs hatch in the small intestine, (L3) develop in caecum and ventral colon invade the crypts of Lieberkühn. Approximately 3–11 days L_4 attach to the mucosa of the ventral colon [3] 4 stages moult to L_5 and full maturation about 100 days later [4]. Oviposition by females occurs when they protrude from the anus and deposit their eggs in a mass of sticky fluid on the skin surfaces of the perianal area .Female pinworms deposit their eggs in a single mass containing 8000–60,000 eggs [4]. significant volume of proteinaceous fluid originating from the reproductive tracts of female worms with eggs that may be white, cream, yellow, light orange or light green in colour. local irritation and the associated vigorous rubbing of the rump and tail head against fixed objects r. It is unknown whether the egg masses cause irritation by desiccation and contracture of the protein materials on the skin surface, or if it is a more complex phenomenon involving other irritating substances or perhaps even an immunological reaction by the host [5]. Individual horses that exhibit no tail-rubbing or other signs of local irritation despite harbouring extremely large and numerous egg masses.

History and clinical observation
A seven years old Thorough English breed white in colour stallion was presented with the history of severe itching, Anorexia,. Erythema, edema, Alopacia of perineal region. (Fig 1). Physical Examination revealed that all parameters are showed normal .temp-100degree F, Pulse Rate-40bpm, respiration rate 10/minutes

Haematological invstigation
Haematological tests for Hb concentration, Total Leucocyte Count and Differential Count were done to reveal the general health status. The values for the haematological parameters when the horse was presented to clinic, day of presentation (0 day) 14th day and 21days blood collected parameters are shown in Table 1.

Table 1

	Hb (gm %)	TLC (per µL)	Neutrophil (%)	Lymphocyte (%)	Eosinophil (%)	Basophil (%)	Monocyte (%)
0 day	16	20×10^3	65	22	9	0	4
14th day	15	16×10^3	60	30	7	0	3
21th day	17	13×10^3	56	34	6	0	4

Biochemical investigation

Biochemical test for serum protein, cholesterol, triglyceride were done. By collcting blood on respective days o, 14, 21 day. The values for the biochemical parameters are given below table 2

Table 2

	Total protin G	Cholesterol mg/dl	Triglyceride mg/dl
0 day	5.9	145	50
14thday	6.1	100	47
21thday	6.7	93	43

Parasitological investigation

Skin scrap was taken by Cellophane tape attachment method from perineal region of the horse Observed under low power then high power, One sided flattened of the eggs (fig 2) were found confirmed for pinworm of horse.by dept. of vety. Parasitology CVsc and AH, OUAT BBSR.

Fig 1

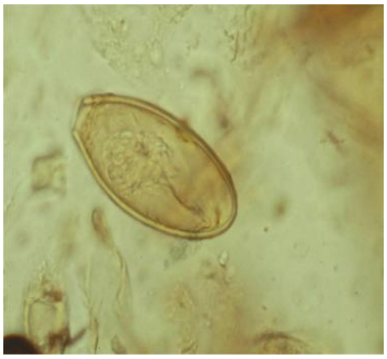

Fig 2

Treatment and Discussion

The horse was treated with fenbendazole (Fentas 1.5gm 2 boli) @7.5mg /kg body wt and repeated after 15 days. oxytetracycine@10mg/kg bodywt to combat secondary bacterial infection for 3 days. Supporative therapy with vitamin A, D, E, B complex (Intavita H) and chlorpheneramine maleate (Anistamin) @0.4 mg/kg bodywt (10ml) each was given intramuscularly to reduce pruritus. Antiseptic ($KMNO_4$ 0.1%) washing of the perennial region was suggested for 15 days and adviced for cleaning of stable and equipments used in farm practices with sanitiser.

Fenbendazole @5mg /kg body wt having 100%adulticidal efficacy and 100% Larvicidal (L4) efficacy (%) [6] when it is used @ 10mg /kg body wt having 100%adulticidal efficacy and 100% Larvicidal efficacy [7]. (1974). Up on pinworm infection by blocking of microtubules perturbs the uptake of glucose, which eventually empties the glycogen reserves and paralyse the worms expelled through peristaltic movent of bowl. Oxytetracycline is used to combat secondary bacterial infection. Types of diet and availability of vitamins, minerals and other nutrients are directly related with susceptibility of animal to the parasites. Vitamin A, D and B complexes are essential in developing the immunity against parasites very essential for proper functioning of immunological phenomenon going inside the animal's body to develop functional immunity against the parasites [8]. Chlorpheneramine is a first-generation alkylamine antihistamine used in the prevention of the symptoms of allergic conditions such as rhinitis and urticaria. Its sedative effects are relatively weak compared to other first-generation antihistamines [9]. Antiseptic solution is applied to combat the secondary bacterial infection.

There are two comparison study between clinically affected that horse which was presented on 1st day (fig 3) and after treatment 21 days later (fig4).

Fig 3

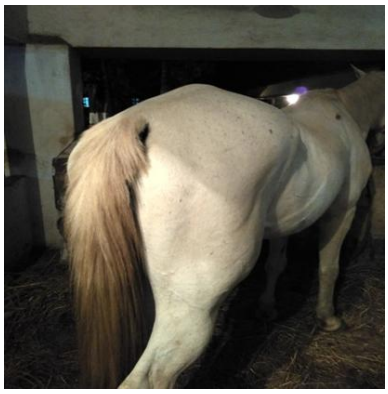

Fig 4

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