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Short Communication

Oestrus ovis Larvae in Nasal Cavity of Goat: A Case Report

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Abstract

Oestrosis is a worldwide myiasis infection caused by the larvae of the fly *Oestrus ovis* (*Diptera, Oestridae*), that develops from the first to the third stage larvae. This is an obligate parasite of the nasal and sinus cavities of sheep and goats. The *O. ovis* larvae elicit clinical signs of cavitary myiasis seen as a seromucous or purulent nasal discharge, frequent sneezing, incoordination and dyspnoea. A 35 kg buck was presented with these symptoms at Veterinary Clinical Complex, Dr. G.C. Negi College of Veterinary and Animal Sciences. The goat exhibited frequent, forceful sneezing, leading to the expulsion of third larval instars (nasal bot) of *O. ovis.* Haemato-biochemical profile showed anaemia, leucocytosis, hypoprotienemia and increased SGOT. Administration of Doramectin, combined with supportive treatment, led to the alleviation of clinical symptoms. The present study reports its successful therapeutic and clinical management of *O. ovis* in a goat.

Keywords: Goat, Nasal bot, Nasal myiasis, *O. Ovis*

India is predominantly an agricultural country and animal husbandry is an integral part of its economy. Himachal Pradesh has about 91% population that depends directly or indirectly on animal husbandry, agriculture, and horticulture (Singh *et al.* 2025). Healthy livestock aids in improving the economic status and livelihood of poor rural communities and small or marginal farmers (Gupta *et al.* 2020). Among the several forms of parasitism, ectoparasitism is one of the most important and includes the order *Diptera*, which affects the livestock industry. *O. ovis*, commonly known as nasal bot, is a parasitic fly larva that infests the nasal cavity of sheep. *O. ovis* primarily affects sheep, but it can also affect goats, deer, and camels. The *viviparous* females swarm around the heads of the animals and deposit the larvae from several centimetres into the nostrils and sometimes also into the eye orbits, in batches of one to several dozen. The larvae then migrate into the nasal cavities and the paranasal sinuses where they develop. The duration of this parasitic portion of the life cycle varies considerably from a few weeks to several months, depending on the season and climatic conditions (Allaie *et al.* 2016). The larvae in goats migrate to the nasal and frontal sinus mucosa and then undergo two moults to complete their normal life cycle. In two to twelve months, the fully developed larvae in their third instar are discharged and pupate on the ground (Papadopoulos *et al.* 2006). *O. Ovis* infected sheep and goats frequently experience mucopurulent discharge, respiratory distress, and sneezing (Urquhart *et al.* 1996). *O. Ovis* infection in sheep and goats leads to increased treatment costs and reduced productivity. In severe cases, it may result in premature culling, causing significant economic losses to farmers.

A 35 kg body weight goat was presented with a clinical history of nasal discharge, sneezing, head pressing, abdominal pain, staggering gait and expulsion of larvae with sneeze (Figure 1A) at Veterinary Clinical Complex, Dr. G.C. Negi College of Veterinary and Animal Sciences. The animal's owner also brought the bots which were discharged on the previous day from the goat (Figure 1B). The goat exhibited frequent, forceful

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A) Goat with Nasal Discharge B) Nasal bot discharged on the previous day C) Freshly discharged Nasal bot

Figure 1.

Table 1. Haemato-biochemistry and electrolyte values of the affected goat

Complete Blood Count		Biochemistry		Electrolyte	
WBC	25.3×10^9/l	Glucose	49.43 mg/dl	Na	138.3 mmol/l
RBC	15.22×10^{12}/l	Bilirubin	0.20 mg/dl	K	4.057 mmol/l
HCT	25.8%	SGOT	290.87 U/L	Cl	104.6 mmol/l
MCV	17 fl	SGPT	28.87 U/L	iCa	1.273 mmol/l
MCH	4 pg	ALP	106.8 U/L	TCa	10.162 mg/dl
MCHC	24g/dl	GGT	53.26 U/L		
RDW	20.4%	Total Protein	6.06 g/dl		
Hb	8.2 g/dl	BUN	112.88 mg/dl		
		Creatinine	1.03 mg/dl		

sneezing, leading to the expulsion of third larval instars (nasal bot) of *O. Ovis* (Figure 1C). Clinical examination revealed elevated body temperature and normal heart and respiration rate. 5 ml of blood was collected from the jugular vein for routine examination, including serum biochemistry and electrolytes. Since there is no history of deworming so routine faecal examination was also done.

Haematology of the affected goats revealed leucocytosis along with Normocytic hypochromic anaemia (Table 1). Faecal examination reveals a high level of *Trichuris* and *Strongyle* infection, which may be the cause of the anaemia (Paul *et al.* 2020). Heavy *O. ovis* larval infestations can lead to larvae dying within the frontal sinuses, often triggering secondary bacterial infections this bacterial invasion stimulates an elevated leukocyte count response in the host (Angulo-Valadez *et al.* 2011). The animal's biochemical analysis showed lower total protein and elevated SGOT (Table 1). The low level of protein in GI parasitism is attributed to increased plasma leakage through the injured gut caused by the parasites (Radostits *et al.* 2010). This loss is predominantly due to selective loss of albumin having smaller size and osmotic sensitivity to fluid movement (Tanwar & Mishra 2001). The remaining electrolyte and biochemical parameters were normal. An increase in SGOT may be the result of tissue damage brought on by larval migration. Reduced total protein may result from a severe *Trichuris* and *Strongyle* infection.

The animal was treated with single dose of Doramectin (Duromect® Zydus animal health limited) at 0.2 mg/kg body weight subcutaneously. Injection Enrofloxacin (FORTIVIR ® Virbac Animal Health India Pvt. Ltd.) in addition to supportive vitamin therapy for 5 days. Deworming was done with Fenbendazole and praziquantel (Fentas Plus ® Intas Pharmaceutical LTD). After 2 weeks of treatment, the goat recovered without any difficulty.

CONCLUSION

Many sheep and goat breeders neglect routine and consistent deworming programme for their animals. Typically, farmers only consider treatment when severe clinical signs become evident, and since early infections or reinfections may not display prominent naso-sinusal symptoms, treatment is often delayed. However, employing long-acting antiparasitic drugs or regular deworming of livestock, along with the use of systemic insecticides like doramectin during fly-active seasons, can effectively reduce both the occurrence and severity of *O. Ovis* infections in goats.

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