

A note on Ivermectin and Clorsulon treatment of Cattle Infested with Subcutaneous Parasites

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Seven crossbred cattle infested with non-specific subcutaneous parasites were given a single subcutaneous injection of a parasitocidal preparation that provided a dose level of 0.2mg ivermectin and 2mg clorsulon per kg liveweight. Additionally, phenylbutazone @ 20 mg /kg liveweight was administered intramuscularly for four days. A complete recovery ensued within 2 weeks of treatment.

KEYWORDS

Ivermectin, Clorsulon, subcutaneous parasite.

INTRODUCTION

Subcutaneous parasitic infestation in cattle in India and abroad is caused by certain arthropods of the *Hypoderma* and *Dermatobia* species and filaroid nematodes of *Parafilaria*, *Stephanofilaria* and *Onchocerca* species which are transmitted by hematophagous vectors.

The affected animals do not show any marked clinical signs until larvae appear along the body coat and nodular or soft fluctuating painful swellings develop under skin at neck, brisket or shoulders and dorsal aspect of the body.

Subcutaneous parasitism inflicts great economic losses to cattle owners by causing reduction in milk production (up to 10 to 20%), loss of body condition, depreciation of value of meat and hide or even mortality in certain cases due to migration of larvae to vital organs (Soulsby, 1986). The present communication reports satisfactory treatment of non-specific subcutaneous parasitic infestation in cattle.

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MATERIALS AND METHODS

Seven crossbred cows, aged between 4 to 7 yrs, exhibited clinical signs suggestive of subcutaneous parasitic infestation. A single subcutaneous injection at a dose of 1ml/50 kg live weight was given aseptically by inserting a 16 gauge needle in loose skin in front of shoulder. This provided a dose level of 0.2mg ivermectin and 2mg clorsulon per kg bodyweight. Two days later, phenylbutazone @ 20mg/kg bodyweight was administered daily (IM) for four days. All animals were kept under close observation for two weeks.

RESULTS AND DISCUSSION

Clinically the affected animals were in poor body condition and yielded significantly low. Painful fluctuating or nodular swellings under skin were observed in brisket region or on shoulders and dorsal aspect of body (Fig 1-4) corroborating with the signs reported by Soulsby loc-cit. After treatment with ivermectin and clorsulon (supported with phenyl butazone), all the seven animals showed a marked clinical improvement during first week and a complete recovery with disappearance of local swellings (Fig 5) was achieved two weeks post treatment. Phenyl butazone was used to counteract effects of toxins liberated if any, by the dead parasites after treatment. These toxins often cause systemic reaction or local inflammatory oedematous swelling (Blood *et al*, 1995). Efficacy of ivermectin against sub-cutaneous parasites from *Onchocerca* and *Hypoderma* species was earlier reported by Klei *et al* (1980) and Soulsby (1986). Antiparasitic activity of ivermectin results from

an increased release of the neuro-transmitter gamma amino butyric acid (GABA). Clorsulon, primarily a flukicide and nematocide inhibits enzyme system of the parasite and is reported to be 100% efficacious against helminths and flukes (Campbell and Benz, 2007) and (Nasreen *et al*, 2008). Injectables comprising of 1% w/v ivermectin and 10% w/v clorsulon were reported highly efficacious against subcutaneous and ectoparasitism due to *Hypoderma*, *Bovicola*, *Sarcoptes* and *Psoroptes* species in goat (Marsy *et al*, 2001), cattle (OSU bulletin) and dog (Marsy *et al*, 2001), respectively.

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Fig. 1-4: Swelling on skin of affected animal



Fig. 5: Post recovery

