Treatment of dairy buffaloes naturally infected with sarcoptic mange

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Received: 27 October 2009 / Accepted: 14 November 2009 ©2009 Indian Society for Parasitology

Abstract Therapeutic trials of sarcoptic mange in buffaloes were studied at local Livestock farms, Lahore (Pakistan). A total of 600 buffaloes were examined over 1 year period (August 2006 to July 2007) for prevalence study, while 60 buffaloes were selected for therapeutic trial. Sarcoptic mange was recorded in 66 (11%) animals. The highest monthly prevalence was reported during the months of January and February (18%) followed by December and March (16%) whereas lowest during the month of July (2%). Over all highest seasonally prevalence was recorded during winter (16.5%) and lowest during summer (5%). Moreover, highest infestation rate was recorded among young (<3 months) buffaloes than with age >3 months. Sex-wise prevalence indicated more prevalence in buffalo bulls (13.15%) than female buffaloes (9.28%). Therapeutic trials were carried out by using ivermectin, doramectin and trichlorphon as per manufacturer’s recommendations for a period of 10 days, while one group was kept as untreated control. Negative skin scraping, disappearance of gross lesions, stoppage of itching and regrowth of normal hair were taken as the criterion to assess the efficacy of these drugs.

Keywords Prevalence, Efficacy of the drugs, Sarcoptic mange, Buffaloes

Introduction

Scabies is a contagious skin condition caused by epidermal mite, *Sarcoptes scabiei var bovis*. It is transmissible directly from animal-to-animal by contact. It may lead to pruritic dermatitis and lesions first appeared as erythema and red papules leading to thin and broken hairs (OACH 2004). Clinical signs other than appearance of lesions may include intense pruritus, erythema, inflammation, keratinization, thickening of skin, exudation and alopecia of the affected areas (Lavenge and Smith 1983).

Buffalo ‘black gold’ is kept for meat and milk production by people in Pakistan. Due to unhygienic conditions, buffaloes get infected with ecto-parasites. It is a noticeable disease in most countries including Pakistan where environmental and unhygienic conditions are favorable for its growth and transmission. The disease is most prevalent in cold wet weather and spreads slowly during the summer months. The impact of the mange in buffaloes lies on their general health and growth, but in severe infestation especially in buffalo calves, the disease may terminate fatally.

Keeping in view the importance of this disease, the efficacy of ivermectin, doramectin and trichlorphon was evaluated in buffaloes affected with natural infection of sarcoptic mange.

Materials and methods

A total of 600 dairy buffaloes of different sex and ages were brought to the treatment of different ailments. The study was
conducted at local livestock farm, Lahore (Pakistan) during the study period of 1 year from August 2006 to July 2007.

Skin scrapings form suspected cases showing signs of pruritus and alopecia were collected form edges of the lesions in a separate clean Petri dish. These Petri dishes containing samples were warmed up to 38°C for approximately 2 minutes and then examined under stereoscopic microscope for the presence of various stages of life cycles of mites (Soulsby 1982), however, negative skin scrapings, were further processed and examined microscopically for the presence of mites and their larval stages as per Soulsby (1982).

A total of 60 buffalos were randomly allocated to 4 groups viz., groups A, B, C and D, having 15 animals each. Animals in group A were treated with ivermectin (Ivomec; Merial, France) subcutaneously at dose rate of 0.2 mg/kg body weight. Two injections of ivermectin were administered at an interval of 10 days. Group B animals were treated with doramectin (Pfizer, UK), at the dose of 0.15% while, group D was taken as untreated control.

All the treated and untreated control buffaloes were monitored daily for presence of mange lesions. Furthermore, skin scrapings were digested in 10% KOH solution for 20% (Lousbergh et al. 1999) and examined microscopically on day - 10, 20 and 30 post-treatment.

Efficacy of the drugs was monitored for the period of 30 days post-treatment. Efficacy of avermectin B1 in the present study was 86.66% nearly similar to studies done by previous workers (Soll et al. 1987; Gill et al. 1989; Maqbool et al. 1995; Hayat et al. 1996) which observed that avermectin B1 was 90–100% effective against sarcoptic mange in buffaloes. Avermectin appeared to be drug of choice for the treatment of common parasitic diseases against sarcoptic mange in buffaloes. Trichlorphon (Neguvon) at a concentration of 0.15% in water tested against sarcoptic mange was found to be 20% effective after 10th, 20th, 30th applications, respectively. No side-effects were noticed in the treated animals. Maqbool et al. (1991) evaluated efficacy of trichlorphon through spray application of 0.15% watery solutions against spontaneously infested sarcoptic and demodectic mange in cattle. It cured 33.3, 72.2, 83.3 and 88.8% cases of sarcoptic mange after first, second, third, and fourth application, respectively, while its efficacy against demodectic mange was found to be 41.7, 66.6 and 100% after three consecutive applications. In both cases time interval between each spray application was 10 days. No side-effects were observed after spraying animals with trichrophon. The untreated control group remained positive for mange throughout the course of study.

Results and discussion

Overall prevalence of sarcoptic mange was 11%. Highest prevalence (18%) was observed during months of January and February followed by March and December (16%). According to previous studies (Hayat et al. 1996) highest prevalence was recorded during winter season (18%) and lowest during summer season (5%). Basu et al. (1952) reported that mange was restricted to few months of the year viz. January–April. Moreover, sarcoptic mange mites have been found to survive better at 20–27°C than 31–39°C (Tikaram and Ruprah 1986) which explains the higher prevalence in winter as compared to other seasons. Animals <3 months of age were significantly frequently effected (35.7%) than over 5-year (0%) these finding are consistent with those of Chakrabarti and Pradhan (1985) and Tikaram and Ruprah (1986). The higher prevalence under 3 months of age could be due to their tender skin, huddling tendency and close contact.

References