A REPORT ON SURRA IN GUJRANWALA

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ABSTRACT

A project was conducted to study the prevalence, clinical signs, treatment response and necropsy findings in equines suffering from Surra in Gujranwala. For this purpose, 34334 animals brought to the Brooke Hospital for Animals were tested over a five year period from April, 1997 to December, 2002. The data showed that out of 34334 animals tested, 1151 were positive for the disease, showing a prevalence of 3.35 per cent. The clinical and necropsy findings were characteristics for the disease. Out of 1151 infected animals, 1129 (98.09 per cent) responded to isometamedium chloride and recovered while only 22 (1.91 per cent) died.

Key words: Surra, clinical findings, treatment, equines.

INTRODUCTION

Surra, signifying "rotten" in the vernacular, is a specific intermittent fever in an acute, sub acute or chronic form, caused by *Trypanosoma evansi*. *Trypanosoma evansi* affects a wide range of hosts, including horses, dogs, camels, buffaloes, elephants, pig and deer.

The disease has a wide distribution in the areas of Africa, Middle East, Central and South America, Pakistan, India, Burma, Sri Lanka, China, Philippines, Vietnam, Indonesia, Malaysia and Brunei (Memon, 1956; Suryanarayana *et al*., 1985; Elamin *et al*., 1988; Luckins, 1988; Sing and Joshi, 1994; Ventura *et al*., 1997; Abo-Sheada *et al*., 1999).

In some countries, the disease incidence increases during rainy season when there are large biting fly populations. The case fatality is 100% in horses if untreated, but it is much lower in cattle and buffaloes which may act as reservoir.

The incidence of disease in Gujranwala was observed by veterinarians of Brooke Hospital for Animals during 1997. Since then a continuous process of examining the thick blood slides under microscopes for surra has been going on.

The present report describes the prevalence, clinical signs, treatment and necropsy findings in horses, mules and donkeys suffering from "Surra" in Gujranwala area of Pakistan.

CLINICAL EXAMINATION

A total of 15597 horses, 5212 mules and 13525 donkeys, presented to the Brooke Hospital for Animals over a five year period (April 1997 to December, 2002) were included in this study. All the animals were thoroughly examined with particular reference to trypanosomiasis. The temperature was recorded and conjunctiva examined for petechiae, anemia, icterus and conjunctivitis. In some cases, oedema especially under the belly and on hind legs was observed. In advanced cases, staggering and in-coordination of the hind legs was observed, particularly in horses, the superficial lymphnods of which were swelled.

Both the fair and poor animals were subjected to fresh blood examination under microscope to assess the density of protozoa. Some smears were seen in the laboratory after staining the slides. There were about 4501 horses, 3053 mules and 38973 donkeys which were at risk to surra infection in Gujranwala area over the last 5 years. The findings of blood examination are given in Table-1.

During clinical examination most of animals were found in a poor condition with rise of temperature, petechiae in conjunctivae and some with staggering gait. As given in Table-1, of 34334 equines tested over last 5 years, 1151 (3.35%) tested positive for surra by wet blood film examination / stained blood smears.

NECROPSY FINDINGS

Out of 1151 animals positive for the disease, 22 died. On postmortem examination, the body fat stores were found to have depleted. There was marked anemia, emaciation, anasarca, and enlargement of liver, spleen and lymph nodes. Necropsy of cases dying of acute surra revealed a general congestion in the visceral organs and extensive hemorrhages in all tissues. The lymphoid organs were found to be hyperemic.

Table 1. Prevalence of surra as detected in horses, mules and donkeys by Brooke Hospital for Animals Gujranwala from April 1997 to December 2002, using wet blood film, stained smear and clinical examination

Period	Animals tested			Total tested	Positive		Total	Died			Total died
	H	M	D		Lab	Clinical		H	M	D	
April 1997 to March 1998	528	67	236	831	86	1	87	2	--	4	6
April 1998 to March 1999	1717	240	798	2755	195	38	233	--	--	--	--
April 1999 to March 2000	861	163	575	1599	88	172	260	2	--	1	3
April 2000 to March 2001	2686	690	2200	5576	33	178	211	4	--	1	5
April 2001 to March 2002	4895	2024	4681	11600	56	201	257	3	2	2	7
April 2002 to Dec 2002	4910	2028	5035	11973	16	87	103	--	1	--	1
Total:	15597	5212	13525	34334	474	677	1151	11	3	8	22

H = Horse; M = Mule; D= Donkey

TREATMENT

The animals found positive on the laboratory, as well as clinical examination were treated with isometamidium chloride (Trypamedium-Merial, France), 125 mg in 500 ml of dextrose for horses and 62 mg for donkeys alongwith the following supportive treatment:

Novacoc Forte - 80ml I/v Injection
Ami-Vicom - 12ml I/m Injection
B-Complex - 10ml I/v Injection

Asprin and multivitamin were also given together with good nursing care. As shown in Table 1, out of 1151 animals treated for surra, 1129 (98.09%) were cured. Only 22 animals (1.91%) died. The animals that died included 11 horses, 3 mules and 8 donkeys.

REFERENCES

Abo-Sheada, M.N., H., Anshassi, G., Mustafa and Z. Amr, 1999. Prevalence of Surra amoung camels and horses in Jordan. Preventive Vet. Med., 38: 289-293.

Elamin, E.A., M.O. El Bashir and E.M.A. Saeed, 1988. Prevalence and infection pattern of *Trypanosoma Evansi* in camels in mid-eastern Sudan. Trop. Anim. Health and Prod., 30: 107-114.

Luckins, A.G., 1988. *Trypanosoma evansi* in Asia. Parasitology Today, 4(5): 137-142.

Memon, P.B., 1956. The incidence of Surra and Tabanid flies in Rajasthan. Indian J. Vet. Sci., 27: 1-16.

Singh, B. and S.J. Joshi, 1994. Epidemiology, clinico-pathology and treatment of clinical *Trypanosoma evansi* infection in buffalo (*Bubalus bubalis*). Indian Vet. J., 68: 975-979.

Suryanarayana, C., S.L. Gupta and R.P. Singh, 1985. Prevalence of *Trypanosoma evansi* infection in equines of Hisar, Haryana. Indian J. Anim. Sci., 55(10): 883-884.

Ventura, R.M., E.T. Gentildaf and M.G. Teixeria, 1997. Molecular markers for characterization of *Trypanosoma evansi*. In: Proceedings of the First Internet Conference on Salivarian Trypanosomes, FAQ Animals Production and Health Paper 136, FAQ, Rome.