

A REPORT ON SURRA IN GUJRANWALA

M. A. Waheed, I. A. Khan and M. H. Khan
Brooke Hospital for Animals, Gujranwala, PAKISTAN

INTRODUCTION

Trypanosomiasis are usually chronic disorders, the duration and symptoms of which vary with the host and parasite involved. Surra is probably the only trypanosoma disease which occurs in Pakistan. This is an acute, sub-acute or chronic disease of camels, horses, mules and donkeys, caused by *Trypanosoma evansi* and characterised by fever, anemia, emaciation, subcutaneous oedema, nervous signs and urticarial eruptions.

Several haematophagous flies can transmit *Trypanosoma evansi* but the most important are *Tabanus*, *Stomoxys* and *Haematopota* species. Transmission is enhanced when horses or camels are closely herded and when they have high number of parasites in their blood. Indigenous cattle and buffaloes may act as reservoirs of the infection for horses and camels. Organisms die in dead carcass in about 18 hours.

The evidence of surra is there in Gujranwala because of marshy surrounding and paddy growing areas around city. The equine owners know about the disease and some more intelligent one's protect their animals against surra, before the on-set of mon-soon. Quite a number of owners talk about this disease, which is known as "Phetta" and seek advice to keep this menace away from their earning partner. In this paper the history of surra, clinical examination and treatment of animals suffering from surra is presented.

HISTORY

In 1880, Major Griffith Evans, a British Army Veterinary Officer, discovered the flagellate parasite in the blood of affected horses, mules and camels in the Punjab. *Trypanosoma evansi* was the first pathogenic trypanosoma to be recognized.

Trypanosoma has got intense consideration and attention due to its disastrous effects on the healthy working animal. *T. evansi* makes an animal unable to perform its duty in a proper manner, slowly and gradually, the victim moves to death. Prevalence of Surra is very important from working animal's point of view as it causes remarkable loss to the economy of the poor owners, dragging them to starvation.

The disease is distributed in Pakistan, India, Burma, Sri Lanka, China, Philippines, Vietnam, Indonesia, Malaysia, Brunei, some areas of Middle East and Centra and South America. In Pakistan, the incidence of surra increases significantly during the rainy season when there are large biting fly populations, the so called "surra season".

CLINICAL EXAMINATION

1. Nearly all the animals reporting for treatment were subjected to conjunctival examination for echemous, petechiae, anaemia, icteric and conjunctivitis.
2. Temperature remained a very dodging factor in surra detection as it is said and is written in most of the text books that Trypanosomes appear in blood while the animals show rise of temperature. But in our campaign even animals showing normal temperature were positive on blood examination. 85 positive cases showed following temperature (°F).

99 - 99.8	03
100 - 100.8	15
101 - 101.8	15
102 - 102.8	37
103 - 103.8	07
104 - 104.8	06
105 - 105.8	02

Total	85
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3. Oedema was not seen in many cases, only the cases in an advanced stage showed oedema on different parts of body especially under the belly and hind legs.
4. In most of the cases the staggering movement and incoordination of hind quarter was seen particularly in horses.

All the fair and poor animals were subjected to fresh blood test by taking a drop of blood from tip of ear and examined under 1/6 lens to confirm the disease. Some smears were seen positive in laboratory. In some

Table 1: Detail of 645 animals examined for surra

Species	Number of animals		
	Examined	Positive	Died
Horses	425	65 (15.29)	2 (3-08)
Mules	40	6 (15.00)	--
Donkeys	180	14 (7.77)	4 (28.57)
Total	645	85 (13.18)	6 (7.06)

Values within parenthesis indicate percentages.

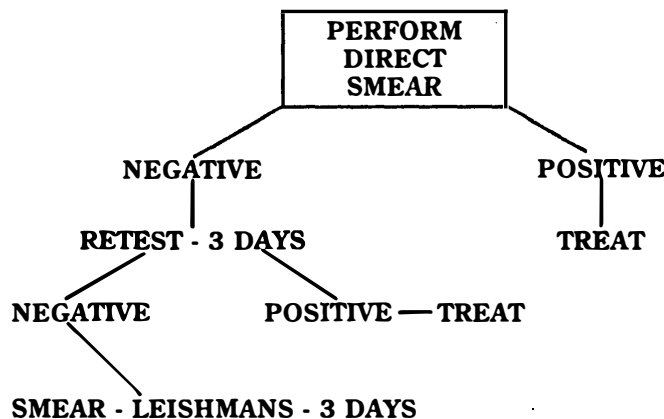
of the slides the density of protozoa (Trypanosomes) was exceptionally high which indicated the severity of disease. Stained blood slides were also examined under oil immersion lens. A specially formulated examination Protocol was followed for 2 months from 5th October to 29th November 1997 (Fig. 1). A total of 645 suspected animals were examined as shown in Table 1.

Most of the animals were in debility condition with rise of temperature, petechiae in conjunctiva and staggering gait which are the typical symptoms, this led us to diagnose the disease and treat it on the lines of surra. The first three cases were detected on 22nd May 1997 and diagnosed clinically with their typical clinical picture. These cases responded very well to the specific medicines for surra i.e. Cymelarsan injection. The dose used was 0.25 mg/kg body weight intramuscular.

A total of 206 cases were treated using different medicines in accordance with availability and symptomology of the animal. A good proportion of animals clinically suffering from mixed infection of surra and piroplasmiasis were given dimenzine acetate at 1 gm/animal dose rate. The animals also responded well to treatment and were almost cured. Keeping in view the greater influx of cases, the confirmation of disease was done with the help of microscope. The first case was confirmed on 16th

1. CLINICAL, SIGNS OR HEAVY SUSPICION VETERINARY OFFICER TO TREAT AS HE BELIEVES FIT.

2. SUSPECT CASES - (eg. POOR CANDITION AND/OR CONJUNCTIVAL PETECHAIE AND/OR ATAXIA AND/OR ELEVATED TEMPERATURE



3. IF CLINIC PICTURE CHANGES OR LEVEL OF SUSPICION INCREASES - TREAT.

TREATMENT

**TRYPAMIDIUM IN 500 mL DEXTROSE 5%
@ 125 mg/HORSE (250Kg)**

Fig. 1: Protocol for handling surra cases

September, 1997 in laboratory and surra testing was started vigorously. The surra testing continued from 5.10.97 to 29.11.97 and during this period a large number of cases were detected.

Treatment

All the positive horses were given trypanidum 125 mg in 500 ml glucose saline and in donkeys trypanidum 62 mg in 250 ml glucose saline was given. In addition to this specific treatment, complementary treatment was also resorted, comprising of following:

Tablet Asprin, 6 + 6, saline electury, Tablet Multi-Vitamin 6 + 6, injection Novalgin in case of high temperature (5-10 ml).

The animals were also given following complementary treatment to combat adverse effects of the disease.

Injection:	Novacoc Forte.	80 ml I/V
	Amivicom.	12 ml I/M
	Mericyl.	10 ml I/M
	Bevidox.	9-10 ml I/M

Conclusions/Recommendations

a. Surra exists in Gujranwala in sub-acute and in chronic form. Some of the owners are aware of this fact.

- b. This disease is more prevalent in horses than in donkeys and in mules.
- c. Campaign to treat and control the disease can only be successful if a drug like Neganol is used and the animals treated against surra are kept in the clinic till complete recovery. Trypanidum is being used to combat the disease but this drug only removes the parasites from blood stream for 21 days followed by relapse. Moreover, trypanidum did not prove very effective on pathogenic trypanosomes of equine. Many animals were found positive when tested after administration of this drug. Intramuscul injection caused painful swelling and abscesses. Intravenous injection of trypanidum in isotonic dextrose solution, though safe but is considered to reduce its potency in blood stream.
- d. Gujranwala may be declared as surra zone in consultation with Provincial Livestock Department to bring it at higher recognition level from the authorities.