Clinical Management in an outbreak of Peste Des Petits Ruminants in Barbari Goats

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Introduction

Peste des petits ruminants is an acute or sub acute viral disease of goats and sheep characterized by pyrexia, erosive stomatitis, conjunctivitis, gastro-enteritis and pneumonia. The name is French for "***disastrous disease of small ruminants***". Goats are usually more severely affected than sheep. It is a paramyxovirus of the genus morbillivirus. It is antigenically very similar to the Rinderpest virus. Peste des petits ruminants was reported in parts of sub- Saharan Africa for several decades and in the Middle East and southern Asia since 1993. It has been reported in Sudan, Kenya Uganda and Ethiopia. In India, PPR was first confirmed in March 1987 in sheep suspected of having rinderest. It is now believed that many outbreaks in India previously attributed to rinderpest were actually PPR (Taylor, 2002) The disease is particularly devastating as these countries often use small ruminants as components of agricultural food production (EMPRES, 1999).

Clinical Observation

A typical outbreak of PPR was recorded in the Barbari breed of goats purchased from Uttar Pradesh, India and quarantined for 45days at the University research farm, Tamil Nadu Veterinary and Animal Sciences University (TANUVAS), Tamil Nadu, India. Out of 30 goats purchased morbidity and mortality were 66.7% and 16.67%, respectively. The affected animals showed symptoms like dullness, restlessness with dry muzzle and were anorectic. Animals had mucopurulent nasal discharge with conjunctival encrustation in the medial canthus. Typical oral lesions were seen with a few having necrotic stomatitis. All the affected animals had profuse diarrhoea and severe bronchopneumonia. Sudden bloat was noticed in grower goats before succumbing to death. The animals which died on post mortem showed erosive stomatitis. Large intestine featured congestion around the ileocaecal valve and "zebra stripes" on the mucosal folds of the posterior colon. Congestion and enlargement of the spleen and lymph nodes were also seen.

Clinical Management

Ocular and nasal secretions were collected and confirmed for PPR by counter immuno electrophoresis as described in OIE (2002). Clinical cases of PPR were treated with broad-spectrum antibiotics like enrofloxcin (Intas Pharmaceuticals, India), @5mg per kg body weight. Intestinal astringents like creta and kaolin were administered. Intravenous fluids like dextrose normal saline (10ml/kg body weight), was administered for the treatment of diarrhea and restoration of body fluid ionic balance for seven days as described by Wosu (1989). The reason for the outbreak of the disease could be due to subjection of the animals to stress during transport, with pronounced clinical symptoms and mortality among young animals due to poor nutrition, stress of movement and concurrent parasitic infection as reported by Saliki (1998). The morbidity and mortality were 66.7% and 16.67%, respectively which were lower compared to Dhar *et al.* (2002) who reported morbidity of 100% and mortality of 90%. The reason for decreased morbidity and mortality could be due to the age of the susceptible animal and managemental practices. The affected goats were fed tender shoots, grasses and a variety of succulent local greens. The goats were also drenched with *ragi* gruel (finger millet) as they refused feed due to painful oral lesions. *Ragi* is known for its high fibre level, which makes it digestible slowly, thus ensuring the slow release of carbohydrates. Lemon fruit and other citrus fruits proved to be effective for the treatment of orf like lesions and labial scabs, (Wosu, 1989) In the evenings, the affected goats were subjected to inhalation with benzoin to decongest the tracheal passage. The oral cavity was washed twice a day with a dilute solution of potassium permanganate

(0.5%) and glycerine was smeared on the gums, tongue and palate for a soothing effect. The sheds were disinfected with common disinfectants (phenol and detergents) and the shed floorings was exposed to 2% sodium hydroxide for 24 hours to kill the virus (OIE, 2002).

In conclusion, good management coupled with quick diagnosis and timely veterinary intervention had restricted the onslaught of the viral infection.

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Gharials under grave threat

More than 90 gharials (Gangeticus gavialis) have been reported dead in the last 2 months in the National Chambal Sanctuary in India for yet-to-be diagnosed reasons. The monarch of Indian rivers is under severe threat.

A team of international veterinarians and crocodile experts - on government request - is working closely with scientists from the Indian Veterinary Research Institute (IVRI). Early results point to levels of heavy metals - lead and cadmium - leading to immune-suppression (or reduction in body's ability to fight pathogens) and thereby making them susceptible to infections. Post mortems on gharials show debilitating gout affecting the animals.

Situated around the Chambal River - often claimed the cleanest river of India - the sanctuary is shared among the 3 Northern Indian states of Rajasthan, Uttar Pradesh and Madhya Pradesh, and is home to numerous freshwater species.

Most of gharial mortalities have been reported in the Uttar Pradesh side of the river, near the confluence of the Chambal and the Yamuna that flows through India's bustling capital, Delhi, and the historic city of Agra.

Gharials - often confused with crocodiles - are characterized by their long and thin snout and the ghara or pot on their head and eat only fish. They are one of the most threatened crocodile species and are classified as critically endangered by the World Conservation Union.

The species is already extinct in its former range in Pakistan, Bhutan, and Myanmar, and most likely also in Bangladesh. Not more than 1,400 specimens remain in the wild today, with less than 200 in their breeding age group. Besides Chambal, gharials are found in isolated stretches of the Ken, Son, Girwa and Ganges rivers in India.

"This is a national crisis - gharials are an important freshwater species. Too few of them remain in the wild and the continuing loss indicates a long term negative effect on the ecosystem." said Ravi Singh, WWF-India's Secretary General and CEO, chair of the Crisis Management Group formed by the Indian Government.

The Crisis Management Group includes representatives of the 3 states, conservation organizations, scientific institutes and community and experts to get to the core of the issue.