

## Ovine theileriosis in Andhra Pradesh –overview

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*Ovine theileriosis is a tick-borne protozoan disease of sheep and goats caused mainly by **Theileria lestoquardi** (malignant ovine theileriosis -MOT, severe) and *T. ovis* (usually milder). *T. luwenshuni* another pathogenic species has been confirmed in Indian sheep and is clinically important to keep in mind. A study in native sheep from Andhra Pradesh (Small Ruminant Research, 2022) confirmed *Theileria* as a dominant haemoprotozoan. Seasonal surges coincide with heavy tick challenge during monsoon; AP outbreak descriptions (though in cattle) document the same climate–tick pattern relevant to small ruminants. Elsewhere in India, severe ovine outbreaks with high fatality have been molecularly confirmed (*T. lestoquardi* north India; *T. luwenshuni* Maharashtra/Karnataka), underscoring the pathogenic potential if similar strains circulate or are introduced into AP flocks.*

**Vectors in India/Andhra Pradesh:** *Transmitted by ixodid ticks, especially **Hyalomma anatolicum**. However, *Rhipicephalus* spp. and *Haemaphysalis* spp. are also known to transmit the disease. Transmission is transstadial (not transovarial). Expect peaks with monsoon-driven tick burdens.*

**Pathogenicity:** *The disease is highly pathogenic to sheep and goats. Even in indigenous sheep breeds, high morbidity and mortality rates are reported. The pronounced pathology and high mortality are likely to be linked to the ability of *T. lestoquardi* schizonts to stimulate uncontrolled proliferation of the infected leukocyte inducing tumor cells (von Schubert et al., 2010). Although this cellular transformation is known to be reversible and dependent on a viable parasite (Dobbelaere and Heussler, 1999) the parasitized cells acquire the capacity to metastasize and multiply in non-lymphoid as well as lymphoid tissues*

**Clinical picture (sheep):** *Acute cases: The most prominent clinical signs of *T. lestoquardi* infections include generalized enlargement of the superficial lymph nodes (especially prescapular). Initially, infected animals have an apparently normal appetite, but in a few days after the onset of fever they cease eating and later on they become progressively emaciated anemia/pallor, tachypnea/dyspnea, weakness, rapid weight loss, intermittent diarrhoea or constipation and loss of condition along with heavy tick loads. Malignant cases can have high case-fatality without prompt therapy. A marked fall in RBC followed by WBCs resulting in leukopenia that lasts for several days, and a fall in blood PCV and Hb are often reported.*

### Diagnosics:

- **Microscopy:** *Giemsa-stained blood smears—piroplasms in RBCs; schizonts (Koch's blue bodies) in lymphocytes in acute disease.*
- **Hematology/biochemical parameters:** *Anemia, leukogram changes are supportive but non-specific.*

**Treatment:** **Buparvaquone** : *commonly used; field reports show good efficacy against *T. lestoquardi*.*

*Combine with long-acting oxytetracycline in schizontic phases plus hematinics/fluids as needed. Always pair with aggressive tick control.*

**Prevention & control in AP conditions.**

- *Integrated tick control: Regular acaricide application (e.g., deltamethrin sprays/dips), attention to ear/scrotal/axillary sites; treat dogs/cattle housed nearby that may carry ticks; rotate pastures and clear brush.*
- *Seasonal strategy: Intensify tick control and flock checks before and during the monsoon (June–October).*
- *Biosecurity: Inspect purchased/re-entering animals; quarantine and tick-treat before mixing.*