Isomet OVER®

First specific treatment for Bovine trypanosomiasis

over® +40
VETERINARY MEDICINE SINCE · 1981

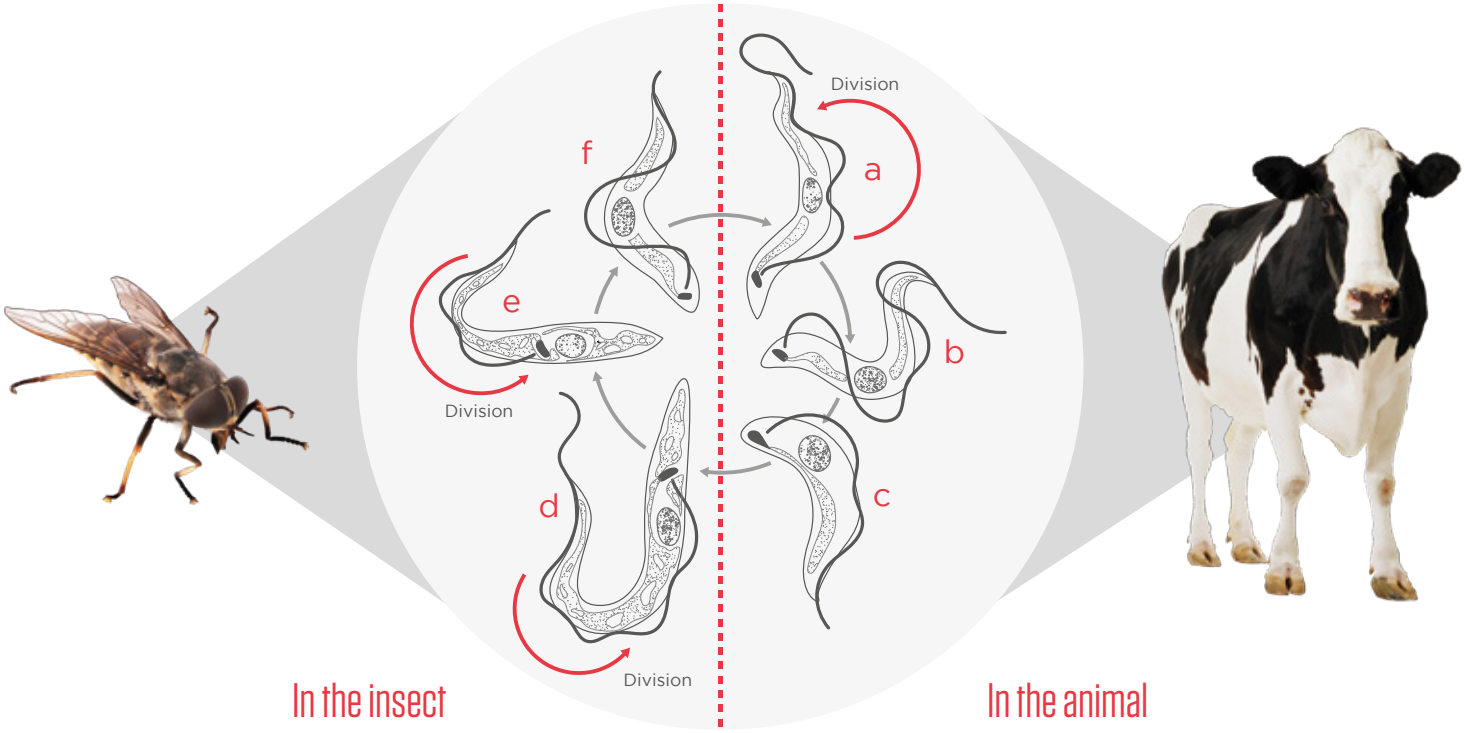
Trypanosomiasis

Trypanosomiasis constitutes a group of diseases of chronic course whose etiological agent belongs to the *Trypanosomatidae* family.

Many species of trypanosomas are transmitted by invertebrates such as biting and sucking insects. It is an extracelular parasite with the ability of mutate continuosly, which prevents the development of vaccines (La Grece and Magez, 2011; Cnops et al. 2015). Another typical characteristic of the parasite is its positioning in the bone marrow and lymph nodes, transforming its host into a carrier.

In this context, as a measure of prevention and control, it is recommended to minimize the presence of the vector (*Stomoxys Spp* and *Tabanus spp*), avoid iatrogenesis, and apply chemotherapeutic treatments with trypanocidal drugs.

Life cicle of *Trypanosoma spp*



Infection begins when trypanosomes are inoculated into the blood stream of a mammal by a vector insect when feeding from the animal. In the invertebrate host, the trypomastigote forms of the parasite (a) multiply by binary fission until reaching a significant amount of parasites in the blood. The trypanosomes transform first into intermediate forms (b) and later into short forms (c), the latter are eaten by the invertebrate host when feeding from an infected animal.

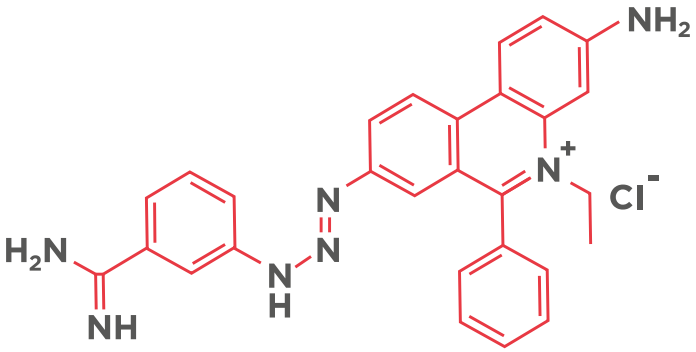
In the midgut of the vector insect, procyclical forms appear (d) and divide, after which, parasites enter the proventriculus and then the salivary glands, where they adopt the epimastigote form (e) and continue to further divide. Finally, metacyclic forms appear (f) in the salivary glands. Metacyclic trypomastigotes are the ones with the capacity to infect mammals, and the life cycle repeats.

Impact

- Diarrhea
- Poor body condition
- Low or zero milk production
- Abortions
- Deaths
- Unproductive animals
- Treatment expenses

Isomet OVER® is an isometamidium chloride based formulation, an effective antiparasitic drug to treat bovine trypanosomiasis. It has healing action, efficiently eliminating circulating trypanosomes, and also preventive action, acting up to 4 months after application.

ISOMETAMIDIUM CHLORIDE



Isometamidium chloride is an active ingredient that belongs to the fenantridinic series with antiparasitic activity. Its main mechanism of action is blocking the synthesis of nucleic acid.

The distribution and elimination of isometamidium were studied in lactating dairy cows after an intramuscular injection of 1 mg/ kg. Concentration peaks in the plasma occurred 24 hours after treatment, steadily maintaining detectable concentrations in plasma until day 29.

Isomet OVER® has broad spectrum of action over trypanosomiasis caused by:

- *Trypanosoma vivax*
- *Trypanosoma congolense*
- *Trypanosoma brucei*
- *Trypanosoma evansi*

The use of **Isomet OVER®** can be complemented with other products such as Hematover PLUS to counter the anemia caused by the disease. Its significant contribution of B-group vitamins and iron makes it a powerful and ideal anti-anemic to recover convalescent animals.

Application

DIVIDE THE TOTAL DOSE AND APPLY IT IN 2 OR 3 DIFFERENT SITES

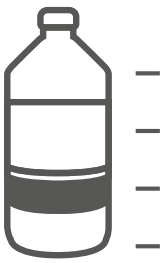
Advantages

First treatment specific for Bovine trypanosomiasis

0 days of withdrawal in milk

116 days of withdrawal in meat

Protection of up to 4 months



Multidose vial

Safe

Assessment of the clinical, hematological and safety response of **Isomet OVER®** (Lab. OVER)

Authors: Martín Allasia, MV, Marcelo Signorini, MV. School of Veterinary Sciences, National University of Litoral. Gustavo Zimmermann, MV. OVER SRL

LOCATION: The test was conducted in four establishments with dairy purpose distributed in the provinces of Santa Fe and Córdoba. The dairy farms that presented signs compatible to the disease were tested to confirm the diagnosis.

TECHNIQUE: In this context, the Woo technique was used to detect the parasitemia and PCR (Polymerase Chain Reaction) was used to detect the genus of *Trypanosoma vivax* by means of the application of gene 18s, and to detect *Trypanosoma vivax* species by means of the amplification of gene TviCatL. A total of 33 dairy bovines were used in the experience.

The moment of the treatment with ISOMET, with intramuscular doses of 0.5 mg / klw, was considered as day 0. Furthermore, on such day, and on days 14 and 28, blood samples were collected from the experimental animals with the purpose of assessing the efficacy of ISOMET (Lab. OVER SRL) in clinical cases caused by *Trypanosoma vivax.*

Results

The evolution of blood parameters (blood count, relative and absolute blood differential) and semiological data (body temperature, heart and respiratory rate, rumen movements) showed the variables presented below:

- Relative and absolute blood differential counts showed no significant changes during the development of the experience. Also, hematocrit, red blood cells count and hemoblogin concentrations presented increased values since the beginning of the test until day 28, when the experience ended.
- As regards rumen movements and temperature, they showed oscillating behavior, different from heart and respiratory rates which evidenced increases.
- Finally, three quarters of the animals showed changes in the color of mucous membranes, varying from a pale to semi-pale state to normal color on the last day of the test.
- In relation to the parasite, the following was observed: the 33 experimental bovines tested positive to Trypanosoma at the beginning of the test (Day 0). From such total, 20 tested positive in the Woo and PCR techniques. Conversely, not all samples that tested positive to PCR (33 bovines) tested also positive to the Woo technique.
- In successive samplings, on days 14 and 28 of the test, the bovines treated with ISOMET OVER® tested negative with both techniques.

Conclusions

Isomet OVER® resulted highly efficient against Trypanosoma in all 33 tested bovines in this experience.

Isomet OVER®

DESCRIPTION:
Trypanocide.

INDICATIONS:
Treatment and prevention of trypanosomiasis caused by *Trypanosoma vivax, T. congolense, T. brucei* y *T. evansi.*

ANIMAL SPECIES TO WHICH IT IS DESTINED:
Bovines.

FORMULATION:
Each vial with powder contains:
Isometamidium chloride hydrochloride ..... 4 g
Each vial with solvent contains:
Sterile solution ..... 200 ml

DOSAGE:
Preventive treatment: 0.05 ml/kg of live weight (equivalent to 1 mg/kg of live weight). **Healing treatment**: 0.025 ml/kg of live weight (equivalent to 0.5 mg/kg of live weight).

TREATMENT DURATION:
Preventive treatment is recommended to apply every 8 to 16 weeks. One dose is enough for healing treatment.

ROUTE OF ADMINISTRATION:
Deep intramuscular injection, in the muscles of the neck, taking all corresponding asepsis measures.

PRESENTATION:
A vial with 4 g of powder and a vial with 200 ml of solvent.

Guiding chart of dosage:

TREATMENT

WEIGHT	PREVENTIVE 1.0 mg/kg	HEALING 0.5 mg/kg
50	2.5 ml	1.25 ml
100	5.00 ml	2.50 ml
150	7.50 ml	3.75 ml
200	10.00 ml	5.00 ml
250	12.50 ml	6.25 ml
300	15.00 ml	7.50 ml
350	17.50 ml (divide into 2 injections)	8.75 ml
400	20.00 ml (divide into 2 injections)	10.00 ml
450	22.50 ml (divide into 2 injections)	11.25 ml
500	25.00 ml (divide into 2 injections)	12.25 ml

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EXPORTS TO 55 COUNTRIES

Alfonsina Storni 680,
(S2447) San Vicente,
Province of Santa Fe,
Republic of Argentina.

T: +54 (3492) 47 0696 | 0086 | 0138
M: labover@over.com.ar
www.over.com.ar