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Conclusions of an episode of surra in dromedary camels in Aveyron (France, 2006-2007/2013)

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Abstract

A short outbreak of surra, due to *Trypanosoma evansi*, occurred in autumn 2006 shortly after the importation of dromedary camels from the Canary Islands into a farm of the Aveyron department (France), which already kept a small herd of camels for demonstrations and tourism. The Canary Islands were surra-infected some years ago by unduly imported dromedary camels originating from West-Africa. A first case of surra was suspected in a clinically sick imported animal after microscopic examination of Trypanozoon parasites on a blood smear. The whole herd was then investigated with parasitological (including mouse inoculation for parasite isolation), serological and molecular tests. Five animals were found positive by at least one test, among them some already living camels in the farm, which proved the local transmission of the parasite by biting insects acting as vectors (stomoxes were abundant on the farm). The control measures were based on the isolation of the farm, the treatment of all camels and the monthly monitoring with the set of internationally recommended specific diagnostic tests which all became progressively negative (in about 4 months). One animal presented a relapse 7 months after being negative to all tests. Following this event, all camels were treated with double doses of quinapyramine, and then melarsomine. The hypothesis of relapse was favored over a new infection from a reservoir, since no more case was noticed during the following monitoring which lasted four years, and a careful retrospective checking of the data indicated that this animal had received under dose of initial treatment. However, an animal, borderline for ELISA test and originating from the Canary Islands, was euthanized in 2013 following an administrative decision considering that the ELISA-VSG proceeded in an OIE surra reference laboratory (Anvers, Belgium) being positive, even slightly, the French regulations had to be put in force to obtain the disease free status of the infected farm and of the country.

This episode and associated control measures bring several lessons: (i) a lack of specific EU regulations regarding surra control; (ii) the difficulty to evaluate the evolution of *T. evansi* within an infected animal which can be a model to other trypanosomes of the subgenus *Trypanozoon*; (iii) The use of a specific drug the dose of which has to be rigorously adapted to the animal weight; (iv) The quality of the various available ELISA and other tests to evaluate the actual status of an animal.