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TITLE:

SEROSURVEY OF RIFT VALLEY FEVER AMONGST DOMESTIC RUMINANTS IN SENEGAL

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ABSTRACT:

Following the emergence of a first Rift Valley fever (RVF) epizootic observed in East Africa, clinical, virological and serological surveys were carried out in domestic ungulates from Senegal in order to establish an early system of RVF detection and to prevent further epizootics. three ecological areas: the Senegal River Basin (SRB), the Ferlo and the Casamance régions, were surveyed.

Sentinels herds were bled routinely or RVF antibody testing (ELISA IgG/IgM and Seroneutralization). Abortion and juvenile mortality were recorded.Samples from livestock were tested for RVF virus isolations by suckling mice and Vero cell inoculation.

In the Senegal River Basin (SRB), from 1988 to 1992, RVF antibody prevalence decreased from 24.4% to 1.0% and from 37% to 9.0% respectively in sheep/goat and in cattle. In December 1993, an epizootic manifestation was observed in small ruminants, ending a five year silent period of undetectable virus activity. At first the epizootic appears in the town of Kaédi (Mauritania) on the northern bank of the SRB: in a group of 300 small ruminants, 12.4% had RVF virus reacting IgM antibodies and 37 females aborted, then in the Senegal River Delta 32.0% of goat seroconverted, 12.5% had RVF virus reacting IgM antibodies and 3.0% of the pregnant females aborted. Consequently, in 1994, the RVF virus prevalence rose from 1.0% to 8.8% in small ruminants.

In Barkedji (Senegal) of the Ferlo region (sahelian domain), the RVF virus was isolated from sheep and by August 1994, seroconversions were observed in small ruminants.

In North (Sahelian) Senegal, the RVF virus was isolated from cattle in october 1993. Despite a noticeable seroprevalence in cattle (19.2%), no epizootic manifestation was recorded.

These observations suggest sporadic re-emergence of RVF virus activity in different ecological zones of Senegal showing various pattern of epizootic risk.Following such a long range survey, risk factors can be differentiated regarding a specific environment.

Post dam ecological changes in the SPR and the Ferlo favor mosquito breeding sites abundance, herd concentration and attract an increasing number of transhumant pastoralists. The increased rainfall in the other area creates more mosquito breeding sites and exposes intensively ruminants to RVF infected vectors.

The identification of specific tools and strategies will be discussed for detecting and preventing RVF re-emergence in West Africa.

KEY WORDS:

Rift Valley Fever, Domestic Ruminants, epidemiological survey, Senegal.

Dakar, le 25/02/96

A Monsieur M.M.V. Van Regenmortel
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Objet: Résumé pour le 1er INTERNATIONAL VIROLOGY AND MICROBIOLOGY CONFERENCE 17-23 November, 1996, Yaoundé, Cameroun.

Monsieur,

Nous avons le plaisir de vous soumettre le résumé de notre travail sur la fièvre de la vallée du Rift que nous menons depuis 1993 au Sénégal.

Et nous vous félicitons de votre initiative qui est de nature à renforcer les liens nécessaires entre les scientifiques d'Afrique et ceux des autres continents.

Dans l'attente d'une suite, nous vous prions de croire, monsieur, à l'expression de nos sentiments les meilleurs.

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Ce résumé a été accepté.