RE-EMERGENCE OF RIFT VALLEY FEVER IN THE SENEGAL RIVER BASIN AFTER THE 1987 EPIZOOTIC.

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A prospective serological and clinical survey of domestic ungulates has been carried out in the Senegal River basin (SRB), since the 1987 epizootic and epidemic of Rift Valley Fever (RVF). Sentinel herds were bled routinely to determine neutralising antibodies, and abortion and juvenile mortality were recorded.

From 1987 to 1993, RVF antibody seroprevalence decreased from >50% to 1% in sheep/goat herds, and from >35% to 9% in cattle. However, in 1994, and for the first time in Senegal since 1987, a RVF virus reacting antibody prevalence rose considerably. Epizootic transmission was observed in the small ruminant herds from the Senegal River delta area (Table). Of 100 sheep in one herd, 33% seroconverted, 12.5% of which has RVF IgM antibody, and an abortion rate of 1:2 pregnancies (Ros-Béthiot 16°17'N;16°08'W). In 1993, we previouly reported from Mauritania (16°12N; 13°30W) a RVF small ruminant epizootic (12.4% RVF IgM positive and a abortion rate of 1:9 of an herdf of 380). These two foci of RVF re-emergence signaled the end of the silent phase that took place after the dramatic 1987 RVF epizootic.

These observations suggests that epizootic manifestations of RVF in West Africa can occur in a cyclic pattern including an inter-epizootic phase followed by enzootic manifestations. The inter-epizootic phase allows the time necessary for a significant decrease in antibody prevalence leaving a non immune population susceptible to RVF infection/epidemics. Then such manifestations will have a magnitude that depends on environmental factors (i.e.: herds concentration during the dry season, rainfall and mosquito breeding site abundance).

The RVF in the SRB can be monitored by a permanent survey in order to establish an early system of detection and prevent further large epizootics that lead to the dramatic epidemic in the human population in 1987. Also immunization campaigns need to be addressed when natural or acquired immunity diminishes under the threshold of risk for RVF epizootic

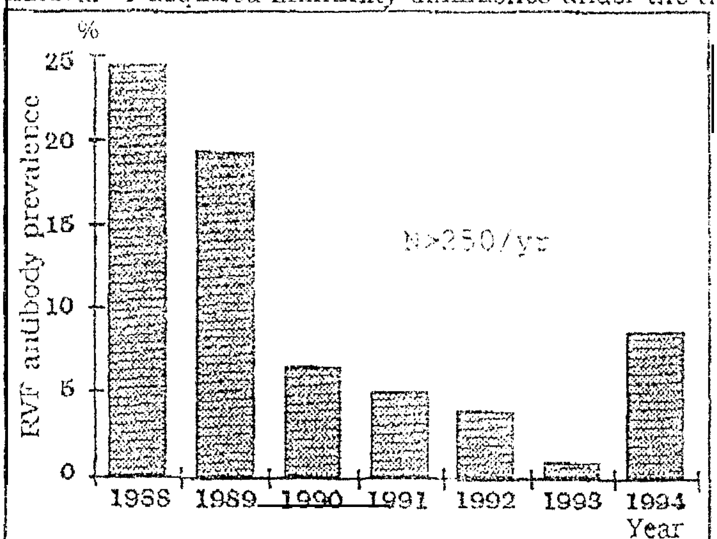

Figure: Evolution of the sheep and goats RVF reacting antibody prevalence after the 1987 epizootic in the Senegal River Basin

... for RVF antibody prevalence in domestic ungulates from the Senegal River Basin

SENEGAL RIVER BASIN	YEAR 1993	YEAR 1994
DELTA	0.0 (160)*	14.9 (148)
MIDDLE VALLEY	2.5 (80)	2.5 (80)
UPPER VALLEY	1.2 (160)	4.5 (88)
TOTAL	1.0 (400)	8.8 (316)

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