

HAEMAGGLUTINATION INHIBITION ANTIBODIES AGAINST SINDBIS VIRUS IN HUMAN AND BOVINE SERA IN EASTERN SICILY

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Previously we reported on the isolation of a Sindbis-related virus (SRV) from *Hyalomma marginatum* ticks in Eastern Sicily (1). To obtain information about the virus circulation we carried out a serological survey in 5 areas up to 80 km distant from the original locality. These areas included the following localities: area 1 — Melilli, Priolo, Solarino, Sortino, Florida; area 2 — Ragusa, Rosolini, Avola; area 3 — Buccheri; Palazzolo; area 4 — Lentini, Francofonte; area 5 — Canicattini, Siracusa. The local climatic and ecological conditions were described (2, 3).

The human sera were collected from May to September, 1978 from 331 male and female inhabitants of small towns, aged from 2 to 81 years. Bovine sera were collected at the same time from 288 animals grazing in little farms. The sera were stored at -20°C until tested. After acetone treatment and goose red cell adsorption, all sera were tested for haemagglutination inhibition (HI) against 8 units of both Sindbis prototype virus and SRV at pH 6.2 and at 37°C .

The total incidence of positive human sera was 2.11% against SRV and 1.51% against Sindbis prototype. Only 3 sera reacted against both antigens. The HI titres varied from 20 to 160. The sera reacting with both antigens showed the highest titres against SRV. The positive human sera originated only from areas 1 and 4.

The total incidence of positive bovine sera was 29.16% against SRV and 13.88% against Sindbis prototype. The HI titres varied from 20 to 320; 27 sera reacted against both antigens and showed the highest titres against SRV. The antibody incidence in the area of virus isolation (area 1) was 25.29% against SRV and 10.58% against Sindbis prototype. A higher antibody incidence to SRV (31.34%) was found in the area 5. Due to the low number of samples from areas 3 and 4, the high antibody incidence cannot be statistically evaluated.

These data seem to demonstrate a quite active circulation of SRV, in particular in the area in which this virus had been isolated from the infected ticks.

The higher proportion of positive reactions with SRV may be due to the avidity of freshly isolated strains and/or to antigenic differences between Sindbis prototype and SRV.

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References

1. Grašíková M., Sekeyová M., Tempera G., Guglielmino S., and Castro A., *Acta virol.* 22 : 231, 1978.
2. Castro A., Tempera G. and Guglielmino S., *Acta virol.* 20 : 76, 1976.
3. Labuda M., Nosek J., Castro A. and Tempera G. (1976): — 2. *Internat. Arbeitskolloquium über "Naturherde von Infektionskrankheiten in Zentraleuropa"*, Graz, 25—28. 2. 1976.

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