

PERSISTENCE OF COXSACKIE B1 VIRUS IN BALB/C MICE

E. V. Bocharov, O. V. Shalaurova

Institute of Clinical and Experimental Medicine of the Siberian Department of Acad. Med. Sciences of U.S.S.R., 630 091 Novosibirsk, U.S.S.R.

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Recently more data have been accumulated indicating the association of Coxsackie virus infection with chronic lesions in the heart muscle and pancreas. However, the virus isolation attempts were usually negative within 1–2 weeks post-infection (p.i.) even in the presence of clear-cut pathomorphologic changes (1, 2). The aim of this work was to investigate the persistence of Coxsackie B1 virus in adult mice at early and late p.i. intervals.

Balb/c males were inoculated intraperitoneally with $10^{4.5}$ TCID₅₀ of Coxsackie B1 virus. After 2, 7, 21, 90 and 180 days, the virus was tested in blood and internal organs using Hep-2 cells. Negative isolation attempts were repeated 3 times. The isolated virus was identified by neutralization test in HEP-2 cells. Serum antibodies were determined in CF test. Virus isolations were performed during the natural course of infection as well as under conditions of immunosuppression (cyclophosphamide VEB Ankerwerk, G.D.R.). CFA was administered to a part of animals 48 hr after each interval in a dose of 200 mg/kg body mass.

It was shown that in adult Balb/c mice the Coxsackie B1 infection was asymptomatic, associated with virus reproduction in internal organs, viraemia and virus antibody formation (Table). In the serum of infected mice the titre of antibodies on day 7 p.i. ranged from titres of 8 to 16. The highest virus titres were found in spleen and pancreas. By 180 days p.i., virus was still present in these organs in minimal titre as confirmed by neutralization of the isolated virus with anti-Coxsackie B1 serum. The persistence of the virus in spleen and pancreas is probably mediated by its low grade reproduction of these tissues.

Organ	Days p.i.									
	Natural conditions					Immunosuppression				
	2	7	21	90	180	2	7	21	90	180
Blood	2.5*	2	—	—	—	1.5	2.25	1.25	—	—
Spleen	4.25	2.25	1.25	—	1.25**	4.5	3.24	2.5	—	—
Pancreas	4.5	3.5	—	—	—	5.24	3.5	2.25**	—	1.25
Liver	2.5	—	—	—	—	2.25	—	—	—	—
Heart muscle	—	—	—	—	—	1.25**	—	—	—	—

* log₁₀ TCID₅₀

** Virus isolated within the 2nd passage.

References

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