

A24

*

()

erc@bom3.vsnl.net.in INDIA-Haffkine Institute Compound Parel, Mumbai-400 012 :

(AHC)

CA24v

(EV70)

acute hemorrhagic conjunctivitis

AHC

EV70

AHC

CA24v

EV70

c

CA24v EV70

HeLa LLC-MK2

100TCID50 (serial two fold dilutions)

(virus neutralization test)

(serum antibody titer)

(/)

% EV70

EV70

()

CA24v

EV70

EV70

CA24v

AHC

CA24v

(EV70)

*

(AHC)

() Apollo 11 disease

()

AHC

AHC

Kono

()

(EV70)

() Yin Murphy

AHC

(% /) (CA24v) Coxsackievirus variant 24v

(% /) CA24v EV70 AHC

()

(Foreign sensation body)

Superficial punctuate keratitis

Self limiting

Post-conjunctivitis

()

AHC

Human) Hela (Rhesus

sub passage (epithelial carcinoma of cervix

Eagles minimum essential medium

% (LLC-MK2) %

(Hela)

CA24v EV70 Hela LLC-MK2

(prototype strain)

Dr.Kono (J670/71)

EV70 AHC

()

CDC Dr.M.Pallansh (CA24v) A24v

C24v

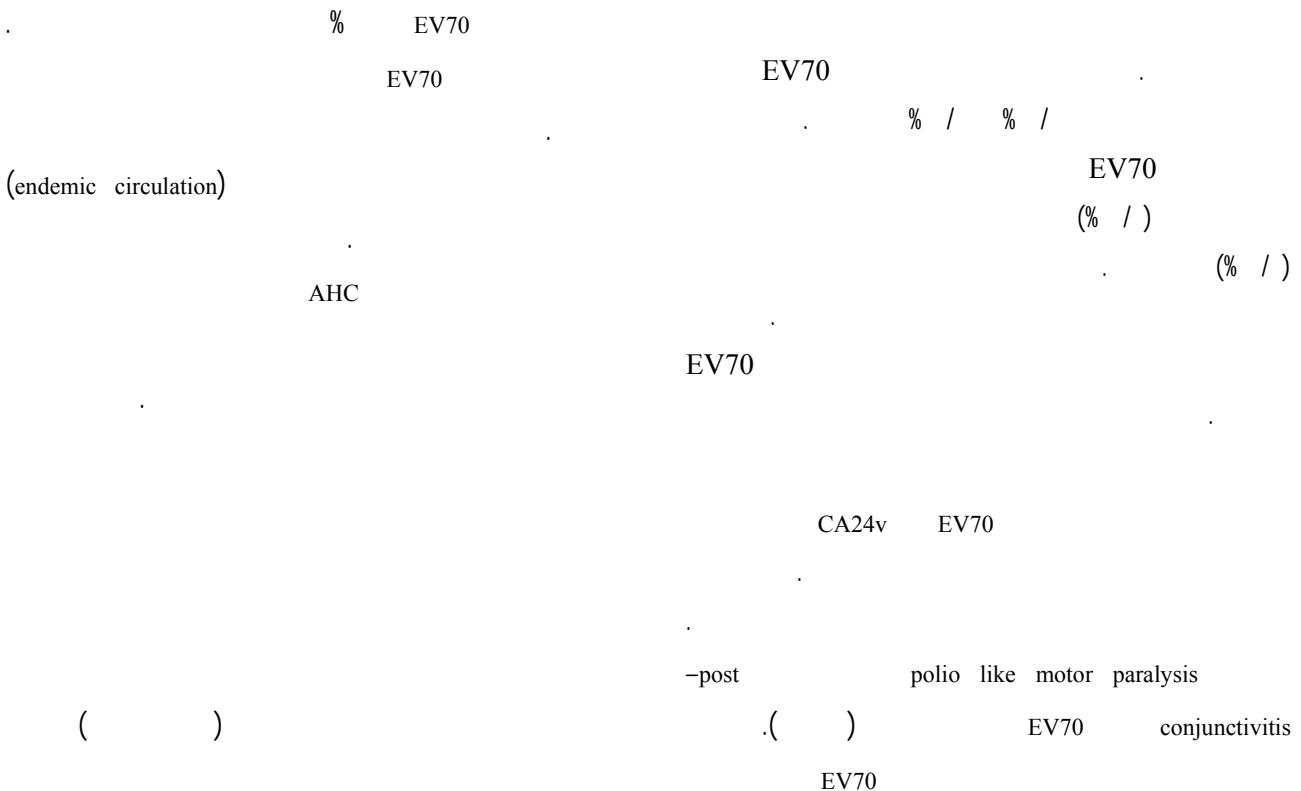
Hela LLC-MK2

CA24v EV70

CA24v EV70

(% /)	(:)		monolayer
EV70		EV70	
(/)	% /		MEM (:
		EV70	
CA24v		EV70)	100-300TCID50/50
			(CA24v
		% CO2	c
EV70			
(/)%	(/)% /		(/)
	(/)% /		
		% CO2	c
(/)% /	EV70	Inverted	
		cytopathic effect	microscope
		Back-	
		TCID50	titration
EV70			
< :			
:			
:			
% /	% /		
		(> :)	
		EV70	
		(% /)	

<i>CA24v</i>	<i>EV70</i>	()
CA24v	EV70	
:	:	< :
	(% /)	(% /)
	(%)	(%)
	(% /)	(% /)
	(% /)	(% /)
(%)	(% /)	(% /)



REFERENCES

1. Chatterjee S, Quarcoompome co, Apentrge A. Unusual type of epidemic conjunctivitis in Ghana. Br J Ophthalmol 1970; 54: 628-630.
2. Parrot WE. An epidemic called Apollo 11. An outbreak of conjunctivitis in Nigeria. Practitioner 1971; 206: 253-255.
3. Kono R. Apollo11 disease or acute hemorrhagic conjunctivitis: A pandemic of a new enterovirus infection of the eyes. Am J Epidemiol 1975; 101: 383-390.
4. Natori K, Yamazaki S, Miyamura K, Kono R. Genetic relationship between two enteroviruses causing acute hemorrhagic conjunctivitis syndrome. Intervirology 1984; 22: 97-103.
5. Yin Murphy M. Acute hemorrhagic conjunctivitis. Prog Med Virol 1984; 29: 23-44.
6. Kono R, Sasagawa A, Miyamura K, Tajiri E. Serologic characterization and seroepidemiologic studies on acute hemorrhagic conjunctivitis (AHC) virus. Am J Epidemiol 1975; 101: 444-457.
7. Yin-Murphy M. An epidemic of picornavirus conjunctivitis in Singapore. Southeast Asian J Trop Med Publ Hlth 1972; 3: 303-309.
8. Christopher S, Theogarage S, Godbole S, John JT. An epidemic of acute hemorrhagic conjunctivitis due to Coxsackievirus A24. J Infect Dis 1982; 146: 16-19.
9. Janak K, Shin I. Detection and differentiation of Coxsackievirus A24 variant isolated from an epidemic of acute hemorrhagic conjunctivitis in north India by RT-PCR using a novel primer pair. Indian J Med Res 2002; 115: 176-183.

- 10.Higgins PG and Chapman TED. Coxsackievirus A24 and acute hemorrhagic conjunctivitis in SriLanka. Lancet 1977; i: 361.
- 11.Reddon IA, Lago PJ, Perez LR, puentes P, Corredor MB. Outbreak of acute hemorrhagic conjunctivitis in Cuba. New Inst Oswaldo Cruz 1999; 94: 467-468.
- 12.Hung TP. A polio-like syndrome in adults following acute hemorrhagic conjunctivitis. Int J Neurol. 1981; 15: 266-278.
- 13.John TJ, Christopher S, Abraham J. Neurological manifestation of acute hemorrhagic conjunctivitis due to EV 70. Lancet 1981; ii: 1283-1284.
- 14.Bharucha EP, Mondkar VP, Kulkarni SA. Post-conjunctival myeloradiculopathy. Neurology India 1982; 22: 79-82.
- 15.Green IJ, Hung TP, Sung SM. Neurological complications with elevated antibody titer after acute hemorrhagic conjunctivitis. Am J Ophthalmol 1975; 80: 832-834.
- 16.Kono R, Miyamura K, Tajiri E, Sasagawa A, Phuparadit P, Roongwithu N et al. Virological and serological studies of neurological complications of acute hemorrhagic conjunctivitis in Thailand. J Infectious Disease 1977; 135: 706-713.
- 17.Saenz RE, Castillo L, Quiroz E. Radiculomyelitis following acute hemorrhagic conjunctivitis caused by enterovirus 70. Report of the 1st corroborated case in America. Rev Med Panama 1984; 34: 245-246.
- 18.Muzzi A, Rocchi G, Lumboroso B. et al. Acute hemorrhagic conjunctivitis during an epidemic of adenovirus type 4 infection. Lancet 1975; ii: 822.
- 19.Shulman LM, Manor Y, Azar R, Handsher R, Vonsover A, Mendelson E et al. Identification of a new strain of fastidious enterovirus 70 as the causative agent of an outbreak of hemorrhagic conjunctivitis. J Clin Microbiol 1997; 2145-2149.
- 20.Mustafa OA, Saleh LH, Abdel-Wahab KS, EL-Gammal M. An outbreak of acute hemorrhagic conjunctivitis caused by enterovirus 70 in Jeddah during 1985. J Egypt Public Health Assoc 1989; 64: 55-57.
- 21.Ramia S, Arif M. Isolation of enterovirus 70 (EV 70) from patients with acute hemorrhagic conjunctivitis in two areas of Saudi Arabia. Trans Royal Society Trop Med Hyg 1990; 84: 139-140.
- 22.Ghafoor A, Burney MI, Zaidi S, Sami Z. Investigation of epidemic acute hemorrhagic conjunctivitis in 1986. J Pak Med Assoc 1988; 38: 313-316.

