

HOMOEOPATHIC DRUGS: A POTENTIAL INHIBITOR OF ANIMAL VIRUSES

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SUMMARY: Four homoeopathic drugs in ten potencies exhibited marked antiviral effect against chicken embryo virus (CEV). Pyrogenium in 1000 potency inhibited the multiplication of virus completely on chorio-allantoic membranes (CAM) of developing chicks. The 6th potency of the same drug was 90% effective in inhibiting the same virus. However, five drugs in nine potencies enhanced the yield of this virus to 4+ lesion reaction in CAM. Of the four drugs in eleven potencies tested against simliki forest virus (SFV) in infected mice, none were found effective for their antiviral effect.

INTRODUCTION

Viral infections remain a major world-wide problem and exceed all other categories of communicable diseases in respect of morbidity and mortality, frequency and disability both in developed and developing countries. In fact, 80% or even more of all episodes of human illness and sufferings result from viral infections. To quote, the incidence of influenza alone during 1968-69 was to the extent of 51 million cases with 80,000 deaths in the United States, one of the most developed countries. Epidemiological records and statistics of other highly pathogenic virus reveal still a grave situation.

As regards animal viral infections, the condition is still worse. There are a large number of animal viruses which effect livestock industry badly and some are even communicable to humans and therefore are zoonotic problems. Foot-and-mouth disease, rinderpest, rabies and distemper are very common serious viral infections which prevail round the year in this country. Prevention and control of viral infections through drugs and vaccines is the need of the hour.

There is long-felt need of developing antiviral drugs both against animal and human viral infections. Despite hectic efforts the world over of screening of natural products, designing synthetic molecules and even the studies on interferon and interferon inducers, an antiviral drug which can be administered with confidence has not emerged so far.

Homoeopathic drugs despite clinical claims have not been explored for their possible antiviral property. However, some homoeopathic and biochemic drugs have been reported recently by some workers like Abidi *et al* (1977), Khurana (1968, 71, 80, 81), Singh *et al* (1980), Verma *et al* (1969), Verma and Verma (1963), Verma (1971) and Verma and Awasthi (1978) against viral infections of plants. In view of no work on antiviral efficacy of homoeopathic

drugs against human and animal viruses, a programme was initiated during 1982 and the progress reports sent to the Central Council for Research in Homoeopathy, New Delhi (1982-83 and 1983-84) by Singh and Gupta who demonstrated that a large variety of homoeopathic drugs in their potencies were highly effective against viral infections. The results of such investigation are summarised in the present communication.

MATERIALS AND METHODS

(1) *Viruses*: Chicken embryo virus (CEV), a DNA type virus of fowls and simliki forest virus (SFV) causing encephalitis in mice, against which screening of homoeopathic drugs was done, were included in this study. The CEV was maintained on chorio-allantoic membranes of 12-day old developing chick embryos which is further being characterised. The virus suspension was prepared from infected CAM by trituration in phosphate buffer saline (pH 7.2) taking one ml per membrane and completely freed from cell debris by repeated centrifugation (7000 RPM/minute). This was then filtered to eliminate other organisms and stored in a deep freezer at -20°C in sterilised glass container until use. 0.1 ml of this virus suspension was used for experimental purpose by inoculating it in CAM of chick embryos. After incubating the eggs for 5 hours at 37°C , the CAM were separated, collected, washed and examined for the extent of poeklike lesions on each membrane.

Simliki forest virus (SFV) was maintained in laboratory-bred swiss albino mice of the Institute. A 20% infected brain homogenate was prepared by trituration in phosphate buffer saline (pH 7.2), freed completely from cell debris by centrifugation (7000 RPM/minute) and filtered in sintered glass filter. This was kept at -20°C in sterilised glass containers. The virus suspension in 0.02 ml quantity containing $10^{-6.5}/0.5$ ml virus titre was inoculated in mice via intracerebral route for causing disease or death.

(2) *Drugs*: Pyrogenium 6, 30, 200, 1000, Secale cornutum 6, Psorinum 6, 30, Diphtherinum 30, 200, 1000, Bacillinum 30, 200, 1000, Ustilago 6, 200, Psorinum 200, 1000, Morbillinum 200 and Sulphur 200 were the drugs which were tested for their antiviral effect against CEV on CAM of developing chick embryos.

The drugs like Eupatorium perfoliatum 30, 1000, Pulsatilla 6, 1000, Psorinum 6, 30, 200, 1000, Pyrogenium 30, 200 and 1000 were evaluated for their antiviral property against simliki forest virus in mice.

ANTIVIRAL ASSAY

The antiviral assay of homoeopathic drugs in potencies was done employing (1) chick embryo system and (2) swiss albino mice model.

(1) *Chick embryos*: A batch of 5 eggs with 12-day old developing chick embryos was selected per potency of each drug for this experiment. The drug was diluted ten times in sterilised distilled water to eliminate alcohol and was potentised by giving ten succussions. 0.2 ml of drug and 0.1 ml of

virus suspension (exhibiting +4 degree of virus lesion) were inoculated in the CAM of chick embryos. The drug was administered before, simultaneously and together with the virus. The eggs were then incubated at 37°C for 5 hours and then cut open to observe the extent of lesion on each CAM.

For demonstrating virus-enhancing effect of homoeopathic drugs, the same technique was followed. The only difference was that the virus suspension was diluted 10 times in PBS so as to get the virus lesions to the extent of +1 or less than that in the form of isolated lesions on CAM.

(2) *Mice*: The antiviral evaluation of homoeopathic drugs against SFV was done by giving 0.2 ml of drug by oral and subcutaneous route for three consecutive days. The mice were challenged with the virus in 0.02 ml quantity through intra-cerebral route. Mice inoculated with virus only served as controls.

RESULTS

The results of four homoeopathic drugs in ten potencies against chicken embryo virus (CEV) as shown in table 1 can be grouped in four categories: (1) The drug causing 100% inhibition of virus like Pyrogenium 1000, (2) the drugs whose antiviral effect was of the order of 75 to 90% like Progenium 6 and 200 and Diphtherinum 200, (3) the drugs like Secale cor. 6, Psorinum 6 and Diphtherinum 30 and 1000 whose antiviral efficacy ranged from 60 to 66.6%, and (4) the drugs like Psorinum 30 and Pyrogenium 30 which caused 25% to 37.5% of inhibition. None of the drugs tested were found negative

TABLE 1
EFFECT OF HOMOEOPATHIC DRUGS AGAINST CHICKEN EMBRYO VIRUS (CEV)

Drugs	Potencies	Number of eggs inoculated/of CAM observed	Number of CAM showing lesions/without lesions	Per cent inhibition
Pyrogenium	6	5/10	1/9	90
	30	5/8	5/3	37.5
	200	5/8	2/6	75
	1000	5/10	0/10	100
Secale cornutum	6	5/10	4/6	60
Psorinum	6	5/8	3/5	62.5
	30	5/8	6/2	25
Diphtherinum	30	5/8	3/5	62.5
	200	5/9	1/8	88.8
	1000	5/9	3/6	66.6
Control	.2 ml PBS	5/10	10/0	0

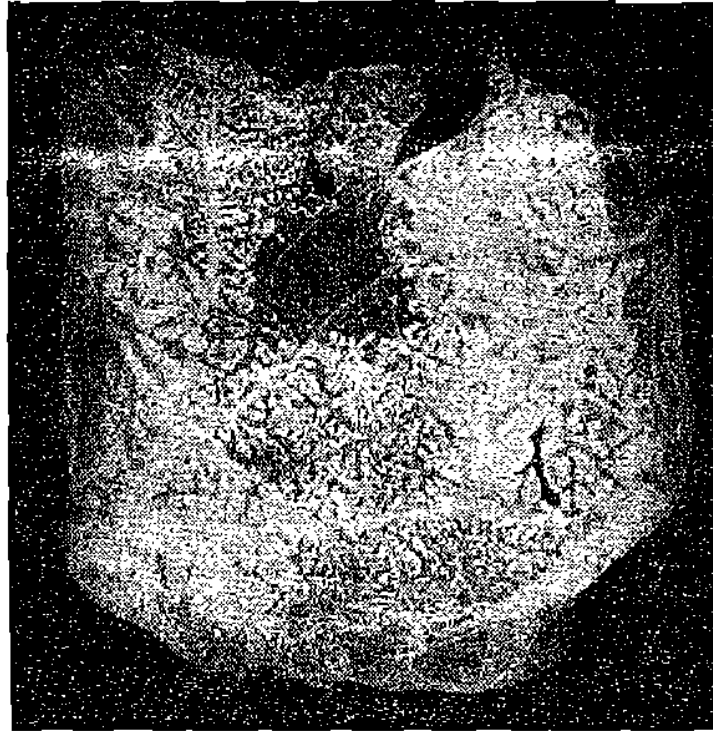


Fig. 1.

Photograph of the chorio-allantoic membrane of the chick embryo showing 4+(100%) virus infection caused by CEV. (Control).

against this virus. The antiviral effects were observed whether the drug was given together, simultaneously or even after the virus inoculation. One interesting thing is also evident from this and other such studies that no correlation exists between the potencies of the same or different drugs.

The results of the enhancing effect of homoeopathic drugs against CEV as presented in table 2 demonstrate that all the five drugs in nine potencies showed a marked enhancing effect on virus multiplication as could be seen from the degree of lesion enhancement compared to controls where the lesions were only to the extent of +1 or less than that in the form of isolated pin heads. The drugs which showed this enhancing effect were Bacillinum 30, 200, 1000, Ustilago 6, 200, Psorinum 200, 1000, Morbillinum 200 and Sulphur 200.

Four drugs in eleven potencies, viz. Eupatorium perf. 30, 1000, Pulsatilla 6, 1000, Pyrogeninm 30, 200, 1000, and Psorinum in 6, 30, 200 and 1000 were tested against SFV but none were found effective.

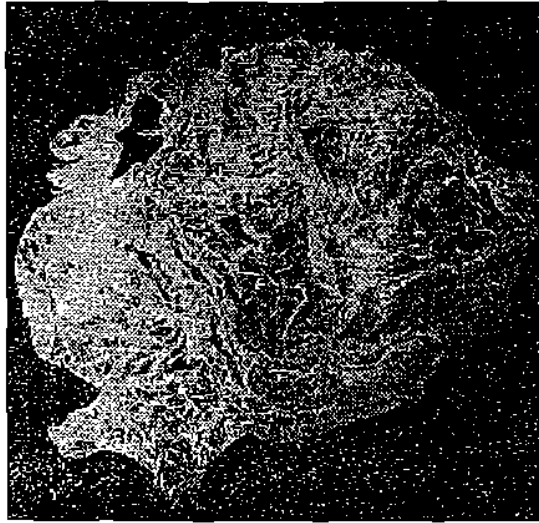


Fig 2.

Photograph showing 100% inhibition of chicken embryo virus (CEV) on the CAM caused by potentiated homeopathic drug (Treated).

DISCUSSION

The antiviral effect of homeopathic drugs demonstrates that there is a great variation in per cent inhibition of virus multiplication by different potencies of each drug. Similar results were also reported against plant viruses by Abidi *et al* (1977), Kburana (1971, 1980), Singh *et al* (1980) and Verma *et al* (1969). It appears as if homeopathic potencies act independently as no linear relationship was found between different potencies of the same drug. These observations are in conformity with the clinical claims of practising homeopaths who believe that potencies of homeopathic drugs function as an individual drug.

The enhancing effect of homeopathic drugs on viral multiplication as has been observed in the present study agrees with the similar observations of Verma *et al* (1969) against plant viruses. These enhancing effects perhaps also resemble the aggravating effect of homeopathic drugs in clinical practice.

The plausible reasons why the four drugs in eleven potencies tested against SFV in mice failed to protect especially when the drugs were administered for three consecutive days before infection may be many. Either these drugs were not at all effective against this RNA alpha virus or the antiviral state induced by these drugs was unable to reach the brain or the antiviral effects were only of poor and transient quality which could not cope with the fast multiplying virus which also causes immuno-depression. There may

TABLE 2

ENHANCING EFFECT OF HOMOEOPATHIC DRUGS ON CHICKEN EMBRYO VIRUS (CEV)

Drugs	Potencies	Quantity of virus inoculum	Number of eggs inoculated/ Number of CAM observed	Number of CAM with lesions/ without lesions	Degree of viral enhancement in each CAM	Per cent inhibition	
Bacillinum	30	0.1 ml of 1/10 dilution	5/8	6/2	2 → + + + +	100	
					2 → + + +	75	
					2 → + +	50	
	200	„	5/8	6/2	2 → + + + +	100	
					3 → + + +	75	
					1 → + +	50	
	1000	„	5/8	5/3	1 → + + + +	100	
					1 → + + +	75	
					2 → + +	50	
1 → +					25		
Ustilago	6	„	5/10	7/3	2 → + + + +	100	
					1 → + + +	75	
					3 → + +	50	
					1 → +	25	
	200	„	5/10	8/2	3 → + + + +	100	
					3 → + + +	75	
					2 → + +	50	
	Psorinum	200	„	5/10	10/0	6 → + + + +	100
						2 → + + +	75
2 → + +						50	
1000		„	5/10	10/0	5 → + + + +	100	
					2 → + + +	75	
					3 → + +	50	
Morbillinum	200	„	5/10	9/1	4 → + + + +	100	
					5 → + + +	75	
Sulphur	200	„	5/10	10/0	6 → + + + +	100	
					3 → + + +	75	
					2 → + +	50	
Control	0.1ml PBS	0.1ml of 1/10 virus dilution	5/10	10/0	8 → + 2 → Less than 25%	25 1-25	

be other reasons which are under investigation.

Since homoeopathic drugs have been found to have marked antiviral effect and are administered in minute doses, easily acceptable and palatable besides being cheap and economical, having no cumulative or side-effects and already proved on healthy humans, they should now find their way to wide use in prophylaxis and cure of viral infections of man and animals which still are considered serious health problems and surpass all categories of infections in respect of incidence of morbidity and mortality.

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