

**SEROLOGICAL COMPARISON OF THE FOOT AND MOUTH
DISEASE VIRUS, SUBTYPE A- 1987 IRAN WITH ISOLATED TYPES
A FROM MIDDLE EAST AND EUROPE.**

Salehizadeh. M, Amighi. M.

Summary

Sub type A— Mardabad was for the first time isolated from Mardabad (40Km west of Tehran), from cattles imported from west Germany.

The serological study shows, the subtype A-Iran 1987— (Mardabad) is quite distinct from both A 22 and A- 5— Europe, and it is slightly different from A-Iran 1960.

Introduction

The F.M D. subtypes isolated in Iran from 1960 untill 1987 are as follow: Iranian subtypes A- (Iran Orient) or A- Shiraz, isolated in 1960 (1) and A- Middle East isolated from Tabriz in 1964 (1) A- Middle East and A- Shiraz are antigenically quite identical, at the same time, this subtype was also isolated from Turkey, Israel and many other Middle East countries (1). Subtype A-550 was isolated from the Soviet Union later on which was similar to A- Tabriz, and all these subtypes were

classified as A 22 by pribright Institute in U.K (1)

Finally A- Mardabad was for the first time isolated from Mardabad quarantine (40 Km west of Tehran) from cattles imported from west Germany, wich infected the cattles throughout the country very rapidly, but was soon controlled by the administration of F.M.D vaccine containing A- Mardabad substituted A22 strain, prepared at the Razi Institute.

Materials and Methods

- A. Table No. 1, shows the list of sera and antigens which have been used in this experiment. In order to exclude exotic strains and consider the O.I.E proposal on F.M.D disease, antisera to European and existing and antisera of Iran have only been used in this survey.
- B. The antigen for serological study has been prepared according to the method of Frankel on monolayer culture of B.H.K cell line (2)
- C. All antisera have been prepared by inoculation of F.M.D adapted strain to guineapig footpad (3)
- D. Serological methods (4-5-6-7) are based on quantitative C.F.T of Osler's method, by using %5 hemolysis, and all results are related to titres of the sera prepared in Iran and in foreign countries.

The comparson of two serotypes are made using the following formula:

$$r = \frac{\text{Heterologous Serum titre}}{\text{Homologous Serum litre}}$$

$$R = 100 \sqrt{r_1 \cdot r_2}$$

r_1, r_2 = The antigenical different of Two strains

Results

Table No. 2, shows serological r values and table No. 3 serological R values of two different strains, following the principles, presented to the virological congress of Lyon (8-9) based on which the following results have been found:

1. The subtype A- Iran 1987 (Mardabad) is quite distinct from, both A22. and A5 – Europe, and it is slightly different from A- Iran 1960.
2. Subtype A- Iran 1960 is quite distinct from A22, A5- Europe, and slightly different from A- Iran 1987.
3. Subtype A22 also is quite distinct from A- Iran 1987, A- Iran 1960 and A5 Europe.

Table No. 1 list of serums and antigens

Virus	Origin	Serum Origin	A-Iran 1987	A22 1964	A-Iran 1960	A5- 1984 W. Germany	A5-Allier France 1960	A5-Modena Italie 1984
A-Iran 1987	Mardabad Karadj - Tehran							
A22 1964	Iran - Middle East							
A- Iran 1960	Shiraz							

Table No. 2 - r Value

Serums \ Antigens	A-Iran 1987	A22 1964	A-Iran 1960	A5-W.Germany 1984	A5-Allier France 1960	A5-Modena Italie 1984
A-Iran 1987	1	0/1	0/35	0/2	0/15	0/2
A22 - 1964	0/12	1	0/25	0/15	0/17	0/15
A-Iran 1960	0/38	0/20	1	0/2	0/16	0/2

Table No. 3 R Values

Serums \ Antigens	A-Iran 1987	A22 1964	A-Iran 1960	A5-W.Germany 1984	A5-Allier France 1960	A5-Modena Italie 1984
A- Iran 1987	%100			%20 ?	%12 ?	%20 ?
A22- 1964	% ± 11	%100		%10	%10	%10
A-Iran-1960	%36	%22	%100	%16	%17	%17

R ? = Results are related to titres of sera which have been obtained in foreign countries

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