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A short note of FMDV and How to joining a high quality protein for production of a anti viral FMD vaccine without virus protein?

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Foot and mouth disease is an infectious and sometimes fatal viral disease that affected tongue, mouth and cloven hoofed animals, including domestic and wild bovid. FMD is prevented successfully by using high quality protein for production of anti viral vaccine, no need virus VPg protein for the production of vaccine.

Foot and mouth disease is a severe and highly contagious viral disease.The FMD virus causes illness and hoofs, mouth ulceration in cows, pigs ,sheep ,goat deer and others animals. FMDV is apicornavirus. The picornavirus family consists of nine members, including foot and mouth disease virus FMDV. In addition the picornavirus family contains a number of unassigned viruses. All picornaviruses have a similar genome organization. The viral genome typically consists of a positive stranded RNA molecule of approximately 7500 to 8000 nucleotides that contains one single large open reading frame preceded by a long 5` untranslated region and followed by a much smaller 3` untranslated region and a genetically encoded poly (A)tail. A small viral protein VPg is covalent by linked to the 5` end of the viral genome. Translation of the RNA genome yields a polyprotein of approximately 2200 amino acids that is divided into the P1,P2,P3 region. Although FMDV is not very risky in adults animals. It can kill young animals and cause serious production losses. The clinical signs are fever followed by the appearance of vesicles between the toes and on the heels on mammary gland and especially on the lips, tongue and palate. Treatment is not given. Affected animals will recover. However because of the loss of production and the infectious state of the disease, infected animals are usually culled. A cow infected with these virus and they can pass the virus to other cow and they're become sick.

The risk of the disease being transmitted to human visiting affected areas is extremely low, if consumption of unpasteurized milk, dairy product or unprocessed meat from infected animals and direct contact with such animal is avoided.

Typical clinical signs of FMD in cattle ,as

1)Pyrexia (up to 43°C)

2) Anorexia

3)In dairy animals, reduced milk volume for one week.

Vesicles develop on the buccal and nasal mucous membranes or between the claws and coronary band, these may lead to:

a) Smacking of lips
b) Bruxism
c) Drooling
d) Lamencess
e) Stamping or kicking of foot.

Vesicles frequency also develop on the mammary glands.

Vesicles rupture, leaving erosion 24 hours later.

Cattle generally recover from FMD within 8 to15 days, but complication may include:

i)Tongue errosion

ii)Secondary infection of lesion

iii)Hoof deformation

iv) Mastitis and permanent impairment of milk production

v) abortion

vi) Permanent weight loss

vii) Young animals may die from viral myocarditis.

There is no specific treatment for FMD. The conventional method of treating infected animals mainly involves the use of antibiotics, flunixin meglumine and mild disinfectant.

But this is not sufficient treatment for FMD. It can be permanent solution against virus by using a perfect vaccine.A low fat high quality protein isolated from fish cell. This protein is used for production of FMDV vaccine. It can more than effectiveof vaccine of virus VPg protein. The vaccine can active in the body above one year in mammary.

I have followed a group experiment with 2+2+140 cows . I applied FMDV vaccine of the cows gradually.After few days, then trying several times infected them with picornavirus. But they are not affected by hoof and mouth disease.

Three years time table experiment method:

1st year thevaccines applied two bulls only.Another all cows affected hoof and mouth disease in the farmhouse but applied bulls don't affected.

Second year also applied thevaccines another two bulls only, repeated similar event above experiment.

Final year applied the vaccines 140 cows and no one affected the disease.

I have reached a conclusionfrom above discussion and experiment that the method of vaccine may be a perfect way against all harmful virus.

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