

AN ORONASAL CHALLENGE WITH H.V.S. ON VACCINATED PIGS
WHICH SUFFERED FROM A SUBCLINICAL INFECTION.
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Because of the fact that Herpes virus suis infections regularly cause great damage, especially on big fattening farms, a field trial was set up by us to find a solution for the problem. On a fattening farm with 3200 fattening places 50 pigs were vaccinated, while 20 pigs served as control group. All pigs came from one breeding farm and were born during one week out of vaccinated mothers.

The piglets were vaccinated for the first time on eleven weeks of age:
10 piglets with a vaccine, experimentally inactivated,
20 piglets with MK25[®] and 20 piglets with Geskyvac[®]. Half of these piglets were revaccinated with the same vaccine 3 weeks later.

From all piglets the S.N.-titre towards H.V.S. was determined on the moment of vaccination and on 3 weeks and 6 weeks after this vaccination, as well as 3 weeks after revaccination.

In the 24th week of age the mean weight of the pigs was 101,4 kg. There was no difference between the experimental group. At this age, i.a. respectively 13 and 10 weeks after vaccination and revaccination, the pigs were submitted to an oronasal challenge. This challenge was carried out oronasally with 10⁷ T.C.I.D.₅₀ of strain 75 V.19 for each pig.

Just before the challenge and 14 days after it, blood samples were taken from the pigs in order to determine the S.N.-titre. During the challenge the pigs were weighed individually every 3 or 4 days.

The results:

a. Of the serological examination.

On 11 weeks of age 67% of the piglets still had a low S.N.-titre. 6 Weeks after a vaccination only given one time, all control animals were negative; and so were all the animals vaccinated once or twice with MK25[®], as well as the pigs vaccinated with experimental vaccine one time. All the pigs vaccinated twice with the experimental vaccine had a S.N.-titre 3 weeks after the second vaccination, as well as the animals which were vaccinated twice with Geskyvac[®]. Also the animals vaccinated once with Geskyvac[®], which were still negative three weeks after the first vaccination, proved to be positive 6 weeks after vaccination.

Just before the challenge only 4 pigs from the 20 control pigs were negative. Almost all the vaccinated pigs had a S.N.-titre now and showed an increase of the S.N.-titre. Only in five pigs the S.N.-titre was equal to or lower than 3 weeks after the vaccination. After the challenge has been ended, there is a clear increase of the S.N.-titre, from which appears, that the challenge succeeded. This trial makes it evident, that the pigs vaccinated

once or twice, as well as the pigs which were not vaccinated, passed through a subclinical H.V.S.-infection.

b. The results of the challenge.

1. In all trial groups a decline in rate of growth or a decline in total weight was established as a consequence of the challenge.
2. The total weight of the vaccinated pigs was after 3 days equal to the weight on the moment of the infection.
3. In the non vaccinated animals this was 11 days on average.
4. There was hardly any difference between the pigs vaccinated one or two times.
5. Even in pigs with a high S.N.-titre a clear decline in weight could be established.
6. The challenge was endured best by the pigs vaccinated with MK25[®].

Conclusions:

1. Subclinical field infections can affect vaccinated as well as non vaccinated animals.
2. Pigs which were vaccinated twice and besides had gone through a field infection, still proved to be sensitive to an oronasal infection.
3. Vaccinated pigs recovered more quickly after an oronasal challenge than non vaccinated pigs.

Geskyvac[®] Lab. R.Bellon, France.

MK25[®] Hemeni B.V., Spaubeek, The Netherlands.

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