THE VALUE OF CLINICAL SYMPTOMS OF LEG WEAKNESS IN RELATION TO OSTEOCHONDROSIS IN SWINE.

P.C. van der Valk*[1]), P.G. van der Wal[2]), S.A. Goedegebuure[3]).
1) Dep. Vet. Med., State University Utrecht, P.O. box 80.152, 3508 TD Utrecht
3) Dep. Vet. Path., State University Utrecht
2) Res. Inst. Animal Husbandry "Schoonoord" Zeist, The Netherlands

Introduction

In previous papers (1,2) preliminary results of a study on the value of clinical symptoms of leg weakness in relation to the pathological findings have been presented. At that time it was already shown that an acceptable high percentage of agreement was found between the clinical and pathological evaluation of the severity of leg weakness. In this paper futher information on the influence of the age of the pig, housing and the value of individual symptoms is presented.

Material and methods

187 pigs were examined clinically every 4 weeks during fattening. If the pigs were kept for breeding they were examined once about every 3 months. After slaughter all long bones were examined pathologically. A scoring system of 5 classes of increasing leg weakness and 3 or 5 classes of increasing osteochondrosis was used to investigate the relation between the clinical and pathological findings. The clinical and pathological scoring systems have been published previously (1,3).

Results and discussion

Between the clinical and pathological findings an overall agreement of 41% was found for the pig as a whole.For the fore legs the percentage of agreement was 58 and for the hind legs it was 69. For pigs slaughtered between the age of 150 and 174 days the percentage of agreement for the fore legs was 44 and for the hind legs 67. For pigs between 175 and 199 days old the figures were 62% and 71%. Between 200 and 224 days old percentages of 42 and 70 for respectively fore and hind legs were found. For pigs between 225 and 299 days old figures of 72% and 56% were found. Finally for pigs more than 300 days old 86% and 77% was found. It seems that the mistake made in the clinical evaluation of leg weakness becomes less if the pig gets older.Even then clinical symptoms appear to be less severe than the pathological findings. In the hind legs this increase in agreement is seen much later than in the fore legs. Only in pigs of more than 300 days old a steady increase is seen to about 90%. An explanation for this might be the difficulty to properly seperate the still aggravating ones from the more stabalized adaptions to the degree of leg weakness. Although these two might look similar, they should be scored differently.

It appeared to be important if the pigs were housed individually, on a half slatted concrete floor, or in groups of 4 on a completely slatted floor. For the hind legs a clear increase in the percentage of agreement between clinical and pathological lesion score was found: 66%for the individually housed pigs and 86% for the pigs housed in groups of 4. This difference might be the result of a more severe housing on a completely slatted floor, the fact that pigs housed in groups tend to move around more, may also be of importance.

The various symptoms of leg weakness have all been examined for their individual value in the estimation of the degree of leg weakness in relation to the pathological findings.

In the fore legs lameness proved to be a very certain prognostic for a severe osteochondrosis. A 100% agreement between the leg weakness and the osteochondral lesion score, both in the highest class possible, was found. Straight fore legs, considered to be normal, showed a 45% agreement with the pathological lesion score. A slight knock-knee proved to be right in 61% and a slight buck-knee in 65%. Both a severe knock-knee and a severe buck-knee were not seen often. As expected they showed 100% agreement between the leg weakness and the osteochondral lesion score. Other rare symptoms as bandy legs also strongly indicated at the presence of severe pathological lesions. The percentage of agreement was 86. Weak pastern were of hardly any value. The percentage of agreement was 50. The presence of a large difference in size between inner and outer claw too was of limited value:53%. In the type of movement of the fore legs, besides lameness a shortening of step clearly indicated more severe pathological lesions. The percentage for this symptom was 92. All other symptoms as swaying with the fore legs during movement and turning on the claw were of hardly any value. The percentage of agreement varied between 43 and 69. In general it could be concluded that in cases of disagreement the clinical score was too favourable.

In the hind legs lameness did not always indicate the presence of severe pathological lesions. The percentage of agreement was 78, which means that although all these pigs were considered to have severe leg weakness, this was not confirmed by the pathological findings. Perhaps the amount of pain, which can not be included in the pathological lesion score, is the reason for this finding. Most of the pigs positioned their hind legs too far foward underneath the body while standing. A 69% agreement was found in these animals between the leg weakness and the osteochondral lesion score. Cow-hocked legs were found quite often. The percentage of agreement for this symptom was 75. Weak pastern in the hind legs were a common finding. A 69% agreement was found between the leg weakness and the osteochondral lesion score. The same percentage was found for a distinct difference in size between the inner and the outer claw. A normal type of movement of the hind legs, straight fowards and backwards without swaying and turning on the claw, was rarely seen. In those few cases the pigs showed only minor pathological lesions. Swaying and turning on the claw was seen in most pigs. They showed the whole range of pathological lesions. The percentage of agreement was 66. For too much swaying in the hind quarters while walking a 69% agreement with the osteochondral lesion score was found. A shortening of step and goose-step showed no higher percentage of agreement than a normal long step: 66 and 68% respectively.

From these results it can be concluded that in the hind legs no specific symptom on its own is of great value as a possible indication for the severity of the pathological lesions.

References

1. Goedegebuure, S.A.; Wal, P.G. van der; Valk, P.C. van der:IPVS Congress 1980 Copenhagen Denmark, p. 326.
2. Valk, P.C. van der; Wal, P.G. van der; Goedegebuure, S.A.: Metabolic disorders in Farm Animals. 4th Int. Conf. Prod. Dis. Farm Animals, Munich 1980, p. 182.
3. Goedegebuure, S.A.; Häni, H.J.; Valk, P.C. van der; Wal, P.G. van der: Vet. Quart., 1980, 2, 28.