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EFFECT OF TRACHEOBRONCHIAL-SWABBING AND OTHER DIAGNOSTIC TOOLS ON THE ENDOCRINE STRESS RESPONSE OF PIGS

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Aware of our responsibility as veterinarians, the increasing importance of animal welfare let us consider the effect of tracheobronchial-swabbing on the welfare of pigs.

Aim of the present study was to evaluate distress caused by tracheobronchial-swabbing, a new diagnostic technique applied without general anesthesia, in comparison to holding pigs in a snare and nasal-swabbing.

Therefore we measured cortisol (4x) in blood and saliva and catecholamines (2x) in blood before and after manipulation. Four groups, three study and one control group (C), were formed to assess cortisol (each group n=23) and catecholamines (each group n=31) in two different substudies. Tracheobronchial-swabbing (TBS) was performed during snare fixation. Animals in the nasalswabbing group (NS) were fixated similarly. Animals of the fourth group got restrained for 60sec in a snare (S) without swabbing.

Treatment in TBS, NS and S caused a significant increase of cortisol concentrations, with no significant difference between groups at any time. 90 min after manipulation cortisol levels in saliva and serum decreased in all groups. The concentration-time-curves of TBS, NS and S did not differ significantly from each other neither in serum nor in saliva cortisol. Unlike S, norepinephrine levels in TBS and NS rose significantly after manipulation. Mean epinephrine levels did not increase significantly in all groups after manipulation.

Stress induced cortisol levels after tracheobronchial-swabbing are comparable to that after snaring and nasal-swabbing. Furthermore we observed a good overall correlation between saliva and blood results. Concerning catecholamines we showed that short-term stress in tracheobronchialswabbing is comparable to that in nasal-swabbing. Both manipulations caused more stress than fixation with snare solely. The results indicate for the first time that tracheobronchial-swabbing

causes endocrine stress responses comparable to nasal-swabbing. Beyond well-established nasal swabbing,

tracheobronchial-swabbing could gain increasing significance in the future as quick,

meaningful and gentle diagnostic tool which does not require anesthesia.