Introduction
Non invasive pulse wave analysis (PWA) is nowadays available through HDO (High Definition Oscillometry) blood pressure measurement technology. Early pre-systolic amplitudes (PSA) are significant for vascular tone and help to differentiate between normal endothelial function (EF), vasodilation and vasoconstriction. Excitement and disease induced impairment of arterial compliance may be distinguished. The higher the PSA values the more they indicate a depending increase in systemic vascular resistance as expected e.g. with activation of RAAS. Angiotensin II, being a very potent vasoconstrictor, and Aldosteron, as a mediator for arterial remodeling, can be influenced by drugs like ACE-Inhibitors, Sartans and Aldosteron antagonists, respectively, which may result in an influence on PSA.

Material and Methods
About four hundred cats were preselected from three European countries based on their history for being hypertensive. Cats were classified as such if systolic blood pressure (SBP) was 2 165 mmHg (average of 5 measurements each visit within 15 mmHg deviation) on two separate visits within 2 weeks to rule out white-coat-effect. Additionally to blood pressure, Pulse wave analysis (PWA) was performed. Both was done using an HDO device and HDO MDS software (S+BmedVET).

Results
Around 36% of the cats with CKD showed an increase in PSA in both measurements of 40-59%, 15.4% of the CKD cats showed PSA >60% (Table 2). Cats with PSA >60% were not treated so far. Cats treated with ACE inhibitors showed PSA of less than 60%.

Conclusion
These results show for the first time that the non-invasive evaluation of EF is possible with HDO-PWA. Hypertensive cats with CKD have clearly higher PSA than cats with other underlying diseases. In the group of cats with idiopathic hypertension, stable PSA values 40% and the increase of PSA respectively may support the prevalence of an underlying disease in early stage. These animals will need further follow up to later identify the disease.

References
B. Egner: Non invasive pulse wave analysis: assessing arterial compliance and prognosis of kidney disease. ECIVM 2012, Maastricht, NL