

INDIRECT BLOOD PRESSURE MEASUREMENT IN CATS –

INFLUENCE OF METHODOLOGY, ENVIRONMENT AND AGE

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End organ damage due to hypertension is common in cats. Kidney failure and hypertensive retinopathy is good examples of that. Hypertension is also an important sign in hyperthyroidism and HCM. However, despite all these reasons to measure blood pressure in cats in the daily practice it's not done. One of the main reasons of not doing that is the insecurity of the practician interpreting the results because of the white coat effect in cats. The purpose of the present study was to study if the systemic blood pressure in cats significant increases due to stress associated with a visit to a veterinarian clinic. We also wanted to investigate the clinical utility of two different methods for indirect blood pressure measurements in cats by assessing how easy they were to use and how reliable measurements they provided. The methods that were used were High Definition Oscillometry (HDO - MemoDiagnostic) and ultrasound-doppler technique (Minidop). The blood pressure was measured in both clinical environment and home environment. Fifty cats were included in the study independent of age, breed and health. The blood pressure in cats was on average higher at the clinic compared to values obtained at home. The difference was most prominent for the systolic blood pressure obtained with the oscillometric device ($P=0,02$). This difference was, presumably, not great enough to be of clinical importance (MV osc clinic 137/75 mmHg, doppler clinic 119; MV osc home 131/71, doppler home 114). A significant difference between systolic blood-pressure measurements was found between the two different methods. The doppler-technique showed significantly lower values. A statistic significant association between age and raised systolic blood pressure was found ($P<0,0001$). The blood pressure increased with increasing age ($Bp_{syst(mmHg)}=119+2,9(\text{age(year)})$).

Environment, equipment and age had significant effect on the blood pressure in cats. The doppler device were considered more difficult to use and more frequently provided unrealistic measurements. Presumably, this was caused by operator inexperience and lack of training but also by the fact, that doppler is known to sometimes give mean arterial pressure instead of systolic pressure. The oscillometric method was considered easier to use and was generally tolerated better by the cats.