

Hypertension in apparently healthy elderly dogs: Prevalence and comparison of in clinic versus at home measurement with Doppler ultrasonic technique

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Introduction



Hypertension is reported in 53% of healthy elderly dogs. → Role of situational hypertension? ¹

In nervous or stressed dogs, blood pressure might be lower at home than in clinic.

AIM: To measure systolic blood pressure (SBP) in apparently healthy elderly dogs and to repeat the measurements at home in dogs with in-clinic hypertension.

Methodology

Prospectively recruited elderly dogs, healthy according to owner (July 19-March 21).

SBP measured by Doppler ultrasonic technique, according to ACVIM guidelines, same experienced individual, standardized protocol.

Hypertension defined as SBP \geq 160 mmHg.

In-clinic hypertensive dogs: SBP remeasured at home, same methodology.

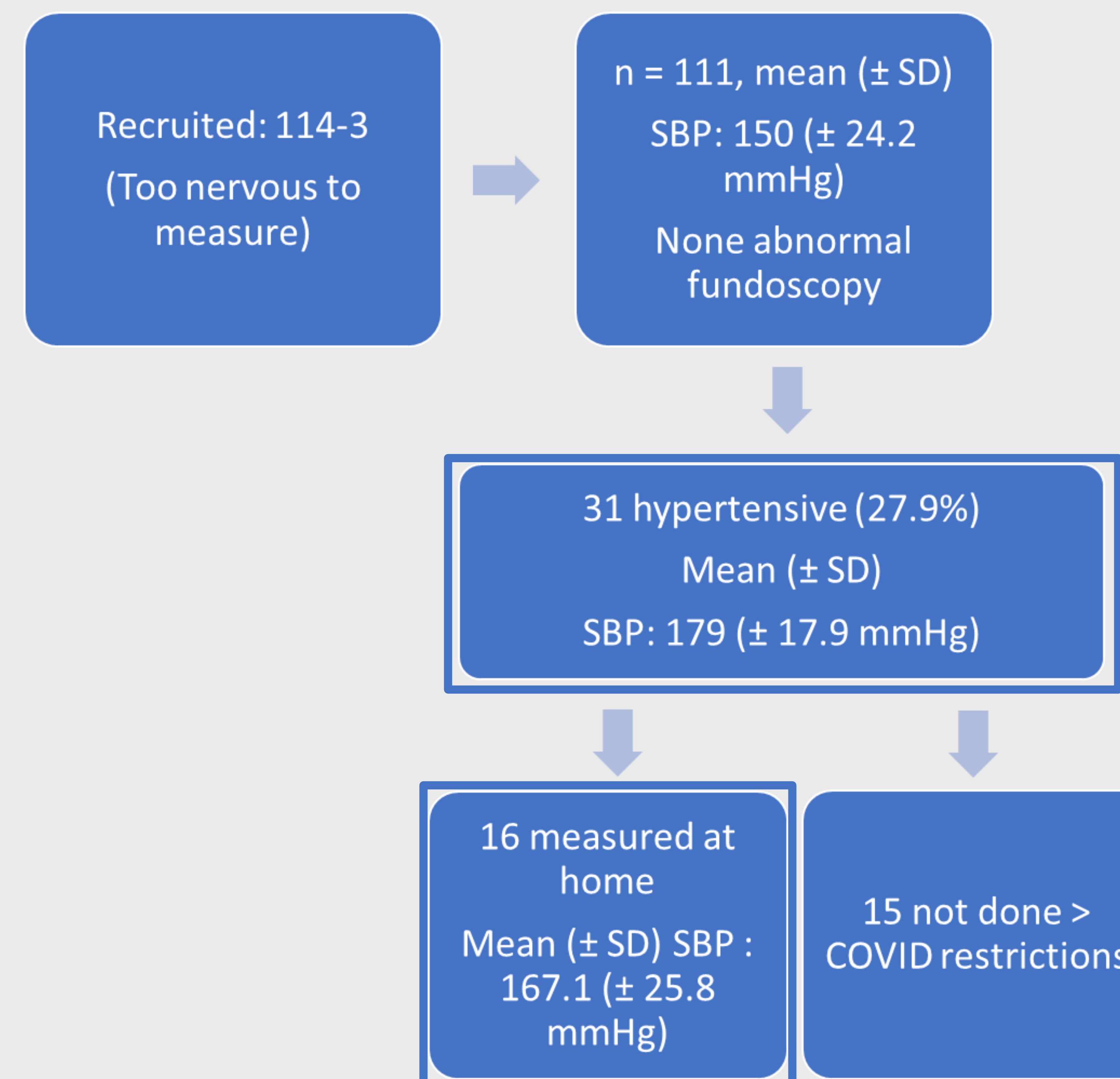
Indirect fundoscopy performed in all dogs.

Level of stress scored from 0 to 3.

Complete physical examination afterwards.

Leg used to measure SBP and dog's position during measurement recorded.

Results



- SBP was on average 17.1 mmHg higher at home than in clinic.
- Highest SBP measured in clinic in 8 dogs, at home in 7 dogs, 1 same value in clinic and at home.
- 11/16 still showed hypertension at home, but SBP normalized in 5/16.

Discussion and conclusion

Hypertension was frequent in this population of apparently healthy elderly dogs → results similar to previous study where 53/100 healthy elderly dogs had SBP \geq 160 mmHg. ¹

Blood pressure values measured at home often differed from values measured in clinic.

It was unexpected to find higher mean SBP at home than in clinic

→ Study comparing blood pressure in clinic versus at home in dogs using indirect oscillometry found that blood pressure and heart rate were initially overestimated in clinic compared to values at home (transient autonomic response to stress?) ²

☒ An older study about variance of indirect blood pressure measurements and prevalence of hypertension in clinically normal dogs did not find significant differences between clinic and home SBP. ³

Study limitation: Small number of dogs.

Blood pressure measurement in the home environment of the dog was found to be useful to differentiate true hypertension from situational hypertension in approximately one-third of dogs.

¹ Willems et al. *J Vet Intern Med* 2017.

² Kallet et al. *J Am Vet Med Assoc* 1997.

³ Remillard et al. *Am J Vet Res* 1991.