

# Changes in systolic blood pressure in dogs with adrenal dependent hyperadrenocorticism during trilostane treatment or after adrenalectomy

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## Introduction

- In people with Cushing's syndrome (CS) and in dogs with pituitary dependent hyperadrenocorticism, systemic hypertension (SH) can persist even after successful treatment of hypercortisolism, and antihypertensive multidrug therapy is frequently necessary to manage SH.
- In dogs with adrenal dependent hyperadrenocorticism (ADH) changes in SBP during trilostane treatment, or after adrenalectomy, have not been reported.
- There is a single description of 4 dogs after adrenalectomy being none of them hypertensive.

## Aims

- To describe the changes in the systolic blood pressure (SBP) and in the prevalence of SH in dogs with ADH during the first year of trilostane treatment (trilostane group [TG]) or after the adrenalectomy (adrenalectomy group [AG])
- To evaluate the relationship between SBP and the clinical control of the disease and the results of the ACTH-stimulation test (ACTH-st)
- To evaluate the response of dogs with ADH to antihypertensive treatment.

## Materials & Methods

- 9 dogs with ADH (3/9 AG and 6/9 TG) attended at the Veterinary Teaching Hospital Complutense of Madrid were prospectively included and evaluated at diagnosis (T0), before surgery (T0'), and 1, 3, 6 and 12 months after initiation of trilostane or after surgery (T1, T3, T6, T12).
- Parameters recorded were: clinical control of the disease, SBP measurement (Doppler ultrasonography), and results of the ACTH-st. SH was considered as SBP $\geq$ 160 mmHg.
- Systemic hypertension was treated with benazepril as a single agent or combined with amlodipine if control of SH was not achieved. Four dogs died before T12.

## Results & Discussion

- Considering all dogs with ADH prevalence of SH decreased from 88.9% (8/9) at T0 to 20% (1/9) at T12, and median SBP decreased from 180 mmHg (range 140-255 mmHg) at T0 to 155 mmHg (range 133-165 mmHg) at T12. Blood pressure data of both groups is described in the table.
- Antihypertensive treatment with benazepril was prescribed in 8/9 dogs; only 1/9 dog needed a second drug, which could be discontinued after adrenalectomy.

Groups		T0	T0'	T1	T3	T6	T12
TG (n=6)	SH	6/6 (100%)	-	6/6 (100%)	2/4 (50%)	2/4 (50%)	1/3 (33.3%)
	SBP	181 (170-255)	-	164 (160-190)	159 (140-167)	150 (133-187)	156 (133-165)
AG (n=3)	SH	2/3 (66.7%)	2/3 (66.7%)	2/3 (66.7%)	0/3 (0%)	0/3 (0%)	0/2 (0%)
	SBP	180 (140-210)	171 (142-188)	160 (97-169)	131 (122-150)	141 (140-142)	151 (148-155)

- No statistically significant differences were observed, and control of the disease or results of the ACTH-st were not correlated with blood pressure at any time point.
- These results are similar to those described in people with CS where 20-40 % of the patients are persistently hypertensive after treatment and normalization of SBP is more common in ACTH-independent CS. Moreover, results of dogs in the TG are similar to previously described in dogs with PDH.

## Conclusions

- Blood pressure should be routinely evaluated in dogs with ADH during treatment
- Special care must be taken after adrenalectomy, as adjustments in antihypertensive medication might be necessary to avoid hypotension

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## References

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