

# Cushing syndrome and hypertension

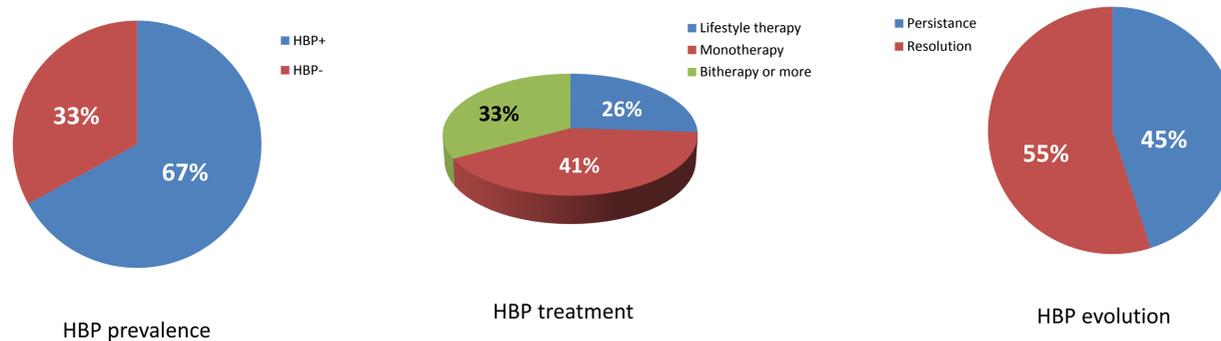
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**Introduction:** Patients with Cushing syndrome (CS) are prone to hypertension as cortisol stimulates renal reabsorption of sodium and enhances vascular sensitivity to catecholamine and angiotensin 2. This explains the frequency of hypertension in patients with CS. The aim of our work was to assess the prevalence and characteristics of hypertension in CS.

**Material and methods:** This is a retrospective study concerning 51 CS (44F/7M) in whom we looked for the presence of high blood pressure (HBP). Thereafter we looked for the characteristics of HBP in CS. CS was secondary to Cushing disease in 82% and to adrenal adenoma in 18%.

**Results:** HBP was present in 67%. Among hypertensive patients, 33% have diabetes mellitus and 33% have a background of familial hypertension. Mean age was  $32.03 \pm 9.87$  years and mean body mass index was  $30.77 \pm 6.58$  kg/m<sup>2</sup>. HBP was treated with one anti-hypertensive drug in 41% and two or more anti-hypertensive drugs in 33%. In 26% patients were treated with life style therapy only. 12% have hypertensive retinopathy, 5% have nephropathy and 9% have cardiovascular disease. After treatment of CS hypertension persisted in 45% and resolved in 55%.



**Discussion:** Hypertension is a major cardiovascular disease, it is one of the most frequent disease affecting nearly one third of adults. Hypertension is in general essential without known cause but in 15% it is secondary to identifiable disease and may be cured by surgery or tailored therapy [1]. Hypertension is frequent in CS ranging between 80 and 95% in adults and 47% in children and adolescents [2]. Mechanisms that underlie hypertension in CS are activation of the renin angiotensin system, mineralocorticoid effect of cortisol and action on peripheral vasculature [3]. The best treatment of hypertension in CS is to treat hypercortisolemia state. CS has a high cardiovascular morbidity and mortality, control of hypertension is hence important to improve patient's prognosis. Patients often need more than one antihypertensive drug to reach normotension, inhibitors of the renin angiotensin system are the preferred drugs, Calcium channel blockers and spironolactone can also be useful. Achievement of eucortisolemia does not always reverse hypertension. Hypertension may persist in about one third of cases [4]. Hypertension persisted in nearly half of our patients. This may be due to the delay in CS diagnosis with vascular damage of longstanding hypertension but also to a high prevalence of background essential hypertension

**Conclusion:** Hypertension is frequent in Cushing syndrome, its association with diabetes, dyslipidemia and a pro-coagulant state also frequent in CS explain the high frequency of cardiovascular events in hypercortisolism states.

## References:

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