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IATROPHOBIC HYPERTENSION; WHITE COAT HYPERTENSION, WHAT?, WHY?, WHEN? – A REVIEW ARTICLE

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ABSTRACT: White coat hypertension is defined by at least three separate clinic-based measurements. >140/90 mmHg and at least two non-clinic-based measurements. <140/90 mmHg in the absence of any evidence of target organ damage. As much as 20 percent of the population suffers from "white coat syndrome," in which blood pressure surges when measured in the doctor's office. The syndrome produces a challenge for physicians seeking an accurate blood pressure reading. At present, antihypertensive drug therapy is generally not recommended for patients with white coat hypertension, though it is reasonable to recommend appropriate lifestyle modifications aimed at reducing the blood pressure, as well as steps to reduce cardiac risk.

KEYWORDS: White coat syndrome, Cardiac risk, Anti hypertensives, Life style modification, Iatrophobia.

INTRODUCTION: White Coat Hypertension (WCH), a common problem in Physician's office, even the prevalence of hyper tension is more in young without any significant past, family, personnel history and clinical examination findings except apprehension during recording Blood pressure. The data shows 20% prevalence it may vary depends on various factors like ambience, Doctor's appearance and attitude and many more. 'Iatrophobia', or fear of doctors, is surprisingly common today.

Iatrophobia or Normal Anxiety?

Since it is normal to be nervous before a doctor visit, it can be difficult to tell whether your symptoms constitute a full-blown phobia.

"White Coat Hypertension" (What?) is defined by at least three separate clinic-based measurements.

>140/90 mmHg and at least two non-clinic-based measurements.

<140/90 mmHg in the absence of any evidence of target organ damage.

An increase of heart rate usually accompanies the effect, suggesting an increase in sympathetic drive.[1] A diagnosis of WCH requires ambulatory BP monitoring to assess pressures outside the clinical setting.

Hypertension Background: WCH is a form of borderline hypertension, a condition in which the arterial blood pressure is sometimes within the normotensive range and sometimes within the hypertensive range.

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Incidence and Prevalence: 20% of patients diagnosed with hypertension actually have WCH. New research suggests that approximately 1 in 6 adults exhibits WCH. Women are twice as likely as men to exhibit WCH, since the Iatrophobia is more common in women, but nowadays the stress is almost equal in both men and women hence WCH has been equal in both sexes. So many other factors may influence hike in SBP rather DBP.

Physiology/Genomics (Why?): WCH is presumably the result of anxiety that elicits a systemic sympathetic response that increases BP.[2] Genetics and environmental factors are thought to be factors in all forms of hypertension. Genetic influences include renal sodium excretion, insulin sensitivity, activity of the renin-angiotensin-aldosterone system, cell membrane sodium or calcium transport, and sympathetic response to neurogenic hormones. Inflammation and endothelial dysfunction also contribute to increased peripheral resistance as well as increased blood volume, both of which increase blood pressure. The patient's environment affects genetic response and includes diet, level of activity, occupation and home life.

Other factors shown to affect hypertension are family history, age, race, gender, obesity, alcohol consumption, smoking and glucose intolerance.[3] Tension and anxiety are also known causes of temporary increases in blood pressure as well as elevated BP in medical settings.

Two Postulations:
1. The first suggests general anxiety disorder as a cause, meaning that BP rises any time the patient becomes anxious for this many neurochemicals are responsible, catacholamines, serotonin, endorphins Dopamine etc.
2. A second proposes that BP elevatation due to classical conditioning. The patient becomes anxious due to a previous undesirable experience in a clinical setting. As a result, he or she experiences anxiety at the sight of a white coat or a clinical setting.[2]

Physical Exam: Patients with WCH should be carefully assessed for early target organ damage.[4] This can be accomplished by ordering basic lab work at least annually. There is no recognized gold standard for the evaluation of white coat effect.[3] Some guide lines recommend home monitoring or ambulatory monitoring should be the initial step for a patient with borderline hypertension.[5] Home monitoring consists of a daily BP log, and ambulatory monitoring consists of a 24-hour recording of BP and heart rate collected with an automatic non-invasive portable recorder. Suspect WCH when home BP monitoring differs significantly from clinic BP readings. During recording the BP the physician has to interact with patient and reduce the generalized anxiety that is somewhat helpful to reduce BP.

If you suspect WCH, order a slow breathing test (SBT) it's a type of Biofeedback manoeuvre to reduce BP. SBT requires two BP readings. The initial BP reading is taken with vital signs. The second is taken after the patient takes one slow, deep breath every 10 seconds for 1 minute. If the second reading is within normal range, the suspicion of WCH is raised, reinforcing the need for ambulatory BP.

A diagnosis of hypertension is made by averaging the readings collected at two consecutive clinic visits. However, Mancia and colleagues found that, in all patients, intra-arterial

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BP may rise to on average 27/14 mm Hg during the first 4 minutes of a visit.[6] The study involved 1,412 patients who underwent office and home BP measurement. Clinicians and patients should take this into account when assessing BP in office readings. In patients with WCH, this effect could be greater. The best option for an accurate diagnosis of WCH is ambulatory monitoring.

Treatment: (When?): WCH does not need special treatment, in some special conditions patient needs pharmacological treatment if the BP is more than stage II JNC 7 guidelines, and mostly non phamalogical treatment like Life style modification, DEB (Diet, Exercise, Biofeedback manoeuvre), CBT (cognitive behavior treatment) by psychiatrist may be helpful. Continuous home monitoring is important in determining the success of therapies. A_1 agonists and beta blockers are logical treatment choices for patients with fixed hypertension with white coat reactivity, due to their anti-anxiolytic effects.[7] Some researchers do not recommend treating uncomplicated WCH, stating it may lower the office BP but most likely will not change the ambulatory readings.[8] Another drug therapy option would be an anti-anxiety medication.

CONCLUSION: Elevated Blood pressure in all the age groups without any evidence of end organ damage, most often office reading of BP may be due to anxiety induced and some manoeuvres to make the patient relaxed will reduce the BP and in some situations they may need pharmacological intervention. The prevalence of WCH will be more than what we are expecting it may need to study further and find out extensive therapeutic measures to prevent overt HTN and it's morbidity and mortality.

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