

## **Hypertension and Gender: Pathophysiology and Treatment**

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Epidemiological evidence suggests gender differences in prevalence and blood pressure levels in the different age groups. The difference in blood pressure and the fluctuation with age, is not known, however, sex hormones have been implicated. There is no clear-cut gender differences in the pathophysiology of essential hypertension. On the other hand, the renin-angiotensin-system exhibit differences that could be of clinical importance, and gender also appears to be an important determinant of autonomic function measured as baroreflex sensitivity and heart rate variability. Plasma renin activity is reported to be lower in hypertensive women compared compared to hypertensive men as well as to normotensive women. Obesity is an important contributor to hypertension in female, and psychosocial aspects may affect blood pressure levels differently in men and women. Furthermore, there is disparate cardiovascular findings in men and women, and hypertensive target organ damage may also differ. In general, the antihypertensive efficacy of pharmacological agents is similar for both sexes, however, the prescription pattern differ. The recommendation for non-pharmacological treatment is similar for men and women, however, the effect of such treatment has not been extensively studied from a gender perspective. Some side effects of antihypertensive drugs are more pronounced in women, i.e. ACE-induced cough, but there is little data on other side effects including sexual dysfunction in female hypertensive subjects. Hypertension is an important risk factor for cardiovascular and renal disease in women despite differences in pathophysiology and treatment approach. More studies are need to look at interaction between gender and treatment effects as well as gender and genotypes.