Hormonal Mechanisms

6.14 Activation of the Renin-Angiotensin-Aldosterone System during Drospirenone Administration for Contraception

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Aim. To evaluate, in young women, the effect an oral contraceptive drug on the rennin-angiotensin-aldosterone system (RAAS).

Methods. Five young women on therapy with 30 µg ethinylestradiol +3 mg drospirenone (a new contraceptive pill for which absence of side effects has been claimed: Yasmine, Schering S.p.A., Milan, Italy) were admitted in our outpatient clinic with occasional evidence of increased systolic (SBP) and/or diastolic (DBP) blood pressure values. They were kept untreated or were treated with calcium antagonists if needed. Each patient was submitted to a biochemical evaluation of RAAS activity.

Results. 24-hour urinary aldosterone concentrations were elevated in women assuming oral contraceptive therapy compared with matched controls. Plasma aldosterone was also significantly increased, mainly in orthostatic position. Twenty-four hour blood pressure was slightly and not significantly higher in woman taking contraceptive pill. After 4 months of discontinuation of oral contraceptive therapy, aldosterone values fell within normal limits.

Conclusions. Our data suggest that drospirenone may have adverse hormonal effects and may induce an activation of RAAS, mainly in orthostatic position. A prolonged activation of this hormonal axis could have an impact on cardiovascular risk in young women.