

High plasma estradiol level as an independent risk factor for ischemic arterial disease among postmenopausal women

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HYPERSTAR

Hypercoagulability, steroid sex hormones and atherothrombosis in the elderly

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Background

Hormone therapy may increase the risk of coronary heart disease and stroke among postmenopausal women. However, the impact of endogenous steroid sex hormones (SSH) on ischemic arterial disease (IAD) has been poorly investigated so far.

Objectives

To investigate the association of **sex hormones** with the risk of **ischemic arterial disease** among postmenopausal women.

Biological parameters

Bioavailable 17 β Estradiol (E2)
Total Testosterone (T)
Sex Hormones Binding Globulin (SHBG)

Clinical outcomes

Coronary heart disease or ischemic stroke

Population

- French Prospective cohort (Bordeaux, Dijon et Montpellier)
- 9 294 men and women
- Over 65 years
- Frozen plasma samples

Sub-cohort

- Postmenopausal women
- without hormone therapy
- without personal history of IAD (n=537)

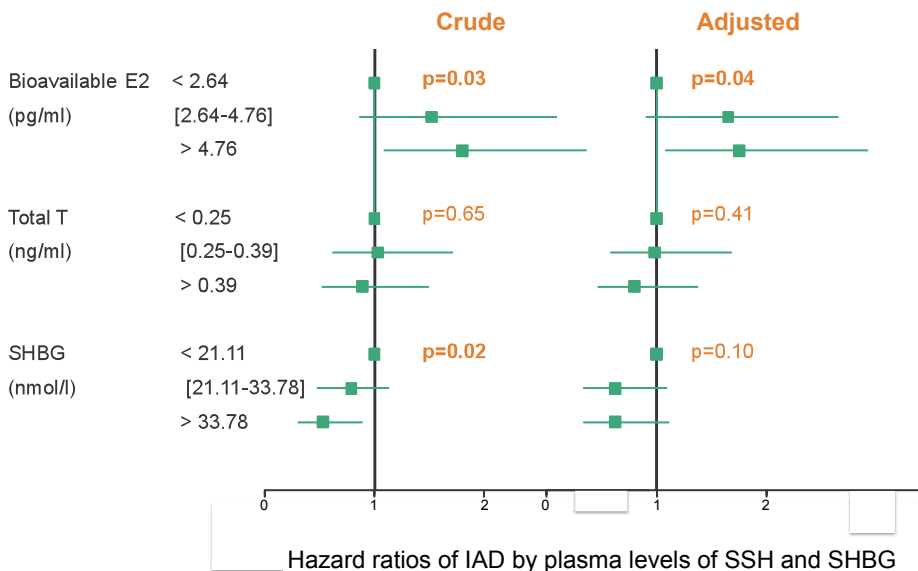
Cases/cohort study

4 years follow-up

522 controls

106 IAD cases

Results



Statistical analysis

- Weighted Cox proportional models (age as the time scale)
- P-values for the linear trend across tertiles
- Adjustment for center, obesity, hypercholesterolemia, hypertension, diabetes and smoking

Conclusion

Elevated plasma levels of Bioavailable E2 emerge as a significant and independent risk factor for IAD among postmenopausal women. These data are consistent with the findings of Women's Health Initiative trials and suggest deleterious effects of estradiol on cardiovascular disease in elderly women.

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