

Epidemiology

2.20 Olivetti Heart Study: the hs-PCR Does not Predict the Development of Hypertension in a Population Sample of Adult Males, 8 Year Follow-Up

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Introduction: The relationship between hs-PCR values and hypertension (HP) has not yet been totally clarified, also for the lack of prospective studies.

Methods: In this study the association between hs-PCR and HP was analysed at baseline and at follow-up, after an average of 8 years, in a population sample of unselected men participating to the Olivetti Heart Study. Blood pressure, hs-PCR and the main confounders were available for 794 participants aged 51.6 years (range 25-74). The prevalence of HP (>140/90 mmHg or therapy) was 39.4%.

Results: The values of hs-PCR at baseline were significantly higher among hypertensives than normotensives (Mann-Whitney U-test, $p < 0.001$). In a multivariate analysis, HP was statistically associated with hs-PCR after adjustment for age, body mass index (BMI), cholesterolaemia (Chol), glycaemia (Gly) and cigarette smoking ($p=0.003$).

On the other hand, the prospective analysis, including only normotensive subjects at baseline, showed that hs-PCR did not predict the development of HP during 8 years of follow-up (RR for 1SD of hs-PCRlog 1.07, I.C.95% = 0.88-1.29).

The hs-PCR significantly increased in 8 years from 1.82 ± 2.18 to 2.66 ± 3.58 mg/L. In a multiple linear regression model including age, BMI, Chol, Gly, smoking, HP and hs-PCR at baseline, hs-PCR ($p < 0.001$), age ($p=0.007$) and smoking ($p=0.005$), but not HP ($p=0.42$), significantly predicted the levels of hs-PCR after 8 years follow-up.

Conclusions: The results of this prospective study do not support the role of systemic inflammation, expressed as hs-PCR degree, in the development of hypertension. Moreover our data do not provide evidence that arterial hypertension contributes to the development of systemic inflammation, despite the role of other cardiovascular risk factors.