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**Impact of hypertension, smoking and liver affection on endothelial dysfunction and subsequent vascular damage in Saudi middle aged males patients**

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**Abstract**

Endothelial dysfunction is one of the mechanisms linked to an increased risk of cardiovascular disease. To assess the impact of hypertension, smoking and past history of schistosomiasis on endothelial dysfunction and vascular damage in Saudi middle aged males who don't exercise regularly, the levels of soluble adhesion molecules E-selectin, ICAM-1 and VCAM-1, biomarkers of the activation of inflammatory cascades during the development of vascular injury, were determined. Plasma levels of sVCAM-1, sICAM-1 and sE-selectin were found to be elevated as a result of hypertension and/or cigarette smoking compared to normal counterparts. These results demonstrated that hypertension and cigarette smoking had the strongest direct associations with these biomarkers which are a reflection of their effect on endothelial dysfunction and subsequent vascular damage, while a past history of schistosomiasis had very little association with these biomarkers. These results also suggest that sVCAM-1 may be useful in assessing the impact of liver affliction, (as a result of schistosomiasis) on endothelial dysfunction.

**Author Keywords**

E-selectin; Endothelial dysfunction; ICAM-1; Schistosomiasis; VCAM-1

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