Adipose tissue of the Perivascular bed

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Introduction: Obesity is an enormous social problem associated with substantial modulation of adipose tissue structure, involving adipogenesis, angiogenesis, and extracellular matrix remodeling tissue architecture and function. Perivascular adipose tissue (PVAT) is an accumulation of adipose tissue around vasculature, which re-leases a variety of biologically active molecules, such as adipokines and cytokines, to regulate vascular smooth muscle cells. Undoubtedly, PVAT monitors endothelial function and its role can be protective or detrimental. Car-diovascular disease (CVD) is highly associated with obesity and the metabolic syndrome. Risk factors for CVD are: hypertension, dyslipidaemia, increased visceral adipose tissue mass, diabetes, obesity, etc. It is still unclear how adipose tissue depot contributes to the pathogenesis of CVD and because there is a lack of data regarding the morphogenesis of vascular alterations, we aimed to investigate morphological changes of both blood vessels wall and adipose tissue in cases with CVD and whether pericoronary epicardial adipose tissue (EAT) is associated with vascular risk factors and coronary atherosclerosis. Materials and Methods: Material was received from the necropsies of patients who had suffered from a cardiovas-cular attack. Classical histological technique was applied. Results: We found alterations in the affected blood vessels; the tunica intima was thickened, which is in fact fibro-sis and increased epicardial adipose tissue. The luminal surface of the intima formed a markedly wavy configura-tion. PVAT was increased in amount and surrounded the blood vessels. Conclusions: Coronary artery segments involved in cardiovascular disease are characterised by diffuse intimal thickening without lipid or calcium content. The results support the hypothesis that EAT affects coronary athero-sclerosis and possibly increases coronary risk.