

The terms normal weight, overweight and obesity should be replaced with the amount of excess fat tissue in the human body

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Abstract

Background: Excess fat may be the major cause of atherosclerosis, aging, and death.

Methods: Sickle cell diseases (SCD) patients were studied.

Results: We studied 222 males and 212 females (30.8 vs 30.3 years of age, $p>0.05$, respectively). Smoking (23.8% vs 6.1%, $p<0.001$), alcohol (4.9% vs 0.4%, $p<0.001$), transfused red blood cells (RBC) in their lives (48.1 vs 28.5 units, $p=0.000$), disseminated teeth losses (5.4% vs 1.4%, $p<0.001$), ileus (7.2% vs 1.4%, $p<0.001$), stroke (12.1% vs 7.5%, $p<0.05$), chronic renal disease (CRD) (9.9% vs 6.1%, $p<0.05$), cirrhosis (8.1% vs 1.8%, $p<0.001$), chronic obstructive pulmonary disease (25.2% vs 7.0%, $p<0.001$), coronary heart disease (18.0% vs 13.2%, $p<0.05$), leg ulcers (19.8% vs 7.0%, $p<0.001$), and digital clubbing (14.8% vs 6.6%, $p<0.001$) were all higher in males.

Conclusion: As an accelerated atherosclerotic process, hardened RBC-induced capillary endothelial damage terminates with end-organ insufficiencies in early decades in the SCD. Although atherosclerotic endpoints are so common, we detected no case of diabetes mellitus (DM) probably due to lower excess fat tissue. As the most common cause of CRD, DM may be a relative insufficiency of pancreas against the excess fat tissue. But the term of excess weight should be replaced with the amount of excess fat

tissue in human body since there are approximately 19 kg of excess fat tissue even between the lower and upper borders of normal weight, 33 kg between the lower border of normal weight and obesity, and 66 kg between the lower border of normal weight and morbid obesity in adults.

Key words: Sickle cell diseases, excess fat tissue, endothelial inflammation, atherosclerosis, normal weight, overweight, obesity, acarbose, metformin