

Is there any link among sibutramine, ghrelin and cholesterol?

[Sibutramin, ghrelin, ve kolesterol arasında bir bağlantı olabilir mi?]

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Dear Editor,

Sibutramine is a weight loss drug, increases the cardiovascular risk (1). However, we think that this negative effect observed on the cardiovascular system is not caused by the weight loss drug sibutramine. Weight loss alters the synthesis of some peptide hormones in the body. For instance, ghrelin is associated with weight loss. The amount of ghrelin in the circulation increases with weight loss (2). Furthermore, ghrelin hormone increases in hunger and drops immediately after feeding (3). Therefore, the synthesis of ghrelin varies according to hunger (including fasting) status (the increase in ghrelin levels during long periods of famine can trigger a heart attack). Because, in a study published in August 2010, Perez-Tilve et al (4). reported that as ghrelin levels in mice increased, the amount of cholesterol in the circulation increased as well. Thus, we propose the following possible mechanism to explain how sibutramine exercises a negative effect on the cardiovascular system. Here according to our possible suggested mechanism, sibutramine causes weight loss, which in turn increases ghrelin synthesis. Increased ghrelin synthesis increases the amount of cholesterol in the circulation and increased cholesterol causes atherosclerosis by building up plaques in the heart vessels. Atherosclerosis in turn increases the risk of heart attack. We believe that the risk of myocardial infarction (MI) and stroke may have increased due to this mechanism in the treatment. This hypothesis is supported by the study conducted by Arterburn et. al. (5), who reported that subjects on sibutramine had elevated cholesterol between weeks 16 to 24. However, the difference between cholesterol levels loses its statistical significance after week 24. In this context, it is seen that sibutramine exerts its negative effect between weeks 16 and 24. This is consistent with the suggested mechanism. As a result, excess weight not only has a negative impact on many organs, but also presents an aesthetic problem. We also argue that it will be appropriate to administer medications that will keep cholesterol within physiological limits between weeks 16 and 24 in addition to weight loss drugs in the treatment of obesity. We believe that if this hypothesis (combined therapy; sibutramine + cholesterol inhibiting drug) is tested, this negative effect (heart attack) of weight loss drugs will be eliminated to take a step towards a healthy life.

References

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