EN

Secrets, puzzles and mysteries of macroamylasemia

N. B. Gubergrits[1], N. V. Byelyayeva[1], G. M. Lukashevich[1], T. L. Mozhyna[2]
[1]Donetsk National Medical University, Ukraine
[2]Healthy Heart Center, Ukraine

Key words: macroamylase, macroamylasemia, pathogenesis, diagnostics, differential diagnostics

Physiological features of amylase synthesis and excretion are considered in the article, presence of other sources of amylase synthesis different from pancreas and salivary glands is emphasized. Definitions of hyperenzymemia and macroamylasemia (MAE) are given. MAE is a state characterized by presence of circulating complexes of normal serum amylase with protein or carbohydrates in blood. There are 3 types of MAE: first — classical (constant hyperamylasemia, decreased amylase level in urine, high blood concentration of macroamylase complexes); second — hyperamylasemia with slightly decreased amylase activity in urine, macroamylase/normal amylase ratio is less than in the first type; third — normal blood and urine amylase activity, low macroamylase/normal amylase ratio. Pathogenesis is explained by connection of blood amylase and acute phase protein in different inflammatory, infectious diseases, malabsorption. MAE clinical manifestations could be absent, sometimes abdominal pain is possible. Hyperamylasemia and reduced urine amylase activity are typical. MAE diagnostics means determination of macroamylase complexes in blood (chromatography, calculation of the clearance ratio of amylase and creatinine). The article presents clinical cases describing extra-pancreatic MAE in women with malignant ovarian lesions. The question of expediency of thorough diagnostic examination in asymptomatic MAE is raised, which may turn out to be a symptom of cancer. The lack of specific treatment for MAE is emphasized.