

CHOLESTEROL CONTENT OF HUNGARIAN MEAT PRODUCTS DETERMINED BY ENZYMATIC METHODS

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Background

In the latest decades the nutritionists encouraged the people in Hungary to eat meal with low fat and Cholesterol content. At the same time an attack was made upon the Hungarian Meat products. It was publicly said that pork and beef and the products made of them how unhealthy were. So there was an unfavourable campaign against the meat industry.

It could not have been found reliable results about the Cholesterol content of Hungarian Meat products, so it was decided to determine it. On the other hand it is important to know the exact Cholesterol content of a product if one would like to publish it on the label or to decrease it.

Objective

The objective of this study was the determination of Cholesterol and fat content of different Hungarian Meat Products.

Methods

The Cholesterol content of meat and meat products was determined by two methods during the experiments:

1. Enzymatic colorimetric method using EnzaChol[®]-F reagent (Organon Teknika Medizinische GmbH, Eppelheim, Germany) and calibration standard.
2. Later the method was changed, and the colorimetric method using Cholesterol (Cat. No. 139050, Boehringer Mannheim, Germany) was applied.

The free fat content of samples was determined by the ISO 1444 method.

Results and discussion

The Cholesterol content of investigated pork meat samples depended on their fat content. The pork samples with higher fat content have higher Cholesterol content. But the type of the pig has to have some effect on the Cholesterol content as well; because the pork meat samples with the same fat content do not always have the same Cholesterol content. So the raw material can effect the Cholesterol content of the meat product.

There are many different heat treated, cooked, smoked Hungarian sausages, and they are very popular in the every-days diet.

The average Cholesterol content of homogeneous cooked sausages, with fat content ~20g/100g (like Frankfurters, etc) are between 60-80 mg/100 g product. The Cholesterol content of these types of sausages with lower fat content containing different vegetables is lower, below 50 mg/100 product.

The average Cholesterol content of cooked sausages with mosaic-like cutting surface (like Mortadella, Bolognese, etc.) is between 60-90 mg/100 g product, also depending on the fat content.

The Cholesterol content of cooked cured Ham products with low fat content is small: 30-50 mg/ 100 g product.

Dry sausages and Salami products are very popular in Hungary. They have higher fat content: 30-50 g/100 g. their average Cholesterol content is between 90- 130 mg/ 100 g product. Their Cholesterol content is higher, than the Cholesterol content of cooked smoked sausages.

The Cholesterol content of pork cheese, pudding sausage and meat loaf products are between 100-200 mg/ 100 g product. They contain liver, etc., and have different formula, depending on the tradition.