SciCom

Scientific Committee of the Federal Agency for the Safety of the Food Chain

Advice 04-2017 of the Scientific Committee of the FASFC on the exposure assessment of the Belgian consumers to bovine cysticercosis

The objective of this study is to estimate the exposure of the Belgian consumers to bovine cysticercosis through the consumption of raw or undercooked beef, given new data on the true prevalence of infected bovine carcasses in the slaughterhouse (40.1% instead of 0.28%), which were obtained in the 'EIDRUC' researchproject (2012-2015).

This estimation of the consumers' exposure to bovine cysticercosis was carried out by modeling in R (https://www.r-project.org) according to the following scheme: Estimated number of viable cysticerci who annually enter the food chain x Consumption of raw or undercooked beef by the Belgian consumers.

The number of viable cysticerci, which annually enter the food chain via beef consumption, is estimated at 137.843. This meat is consumed either raw, cooked or undercooked. Considering a most likely consumption of 57,6 grams of raw beef per capita per month (minced meat, pure American filet, roastbeef, carpaccio), the developed model estimates 11.731 human infections to be expected annually. A mean Belgian consumer ingests 57,6 gr raw beef per month and has an annual infection rate of 0.001035, meaning one infection per 996 years. A 'big' consumer (100 gr raw beef per week), is at risk of a yearly infection rate of 0,0078, meaning one infection per 128 years, while an 'excessive' consumer (500 gr raw beef per day) has a yearly infection rate of 0,2734, representing a mean of one infection per 3,66 years.

Management options to reduce the consumers' exposure to bovine cysticercosis and the prevalence in cattle are proposed.

The full text is available on this website in dutch and in french.