Study on the Wild Boar Meat Contamination with Pathogenic Agents Involved in Foodborne Diseases

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Abstract
There are researchers from countries with large populations of wild boars, who have studied microbial porting of this cynegetic species (Acevedo, 2007). In our country, there are few such statistics in wild boar. This aspect encouraged us to do a study on porting some microorganisms with toxigenic potential after consumption of game meat, using a hunting fund from a certain area, unstudied until now.

From meat samples harvested from 28 wild boars were isolated in a variable weight the following bacterial species with a potential toxigenic: *Listeria monocytogenes* (7.14%); *Salmonella spp.* (10.7%); *Escherichia coli* (42.85%); *Clostridium perfringens* (53.57%). It was not isolated and identified the serotype *Escherichia coli* O157:H7.

It imposes microbiological examination of wild boar meat in order to eliminate the risk of food poisoning. The observations collected until now indicates that in the slaughtering process of wild boars contamination with bacterial pathogenic microflora cannot be avoided, but only limited. Microbiological risks related to wild game species are consistent with those identified for domestic pig meat.

Keywords: bacteria, meat, risk, wild boar

INTRODUCTION
The meat of wild boar is preferred by consumers because of its nutritional quality, having the lowest content in saturated fatty acids, but a higher protein content (Puchianu et al., 2012). From the public health perspective, wild boars play an important role in the bacterial transmission circuit with pathogenic potential (Botezatu, 2014).

AIMS AND OBJECTIVES
In our country, there are few such statistics in wild boar. This aspect encouraged us to do a study on porting some microorganisms with toxigenic potential after consumption of game meat, using a hunting fund from a certain area, unstudied until now.

MATERIALS AND METHODS
To isolate and identify the *Listeria monocytogenes*, were conducted the stages of the horizontal method for the detection and enumeration of bacterial colonies, from food products of animal and non-animal origin according to the standard SR EN ISO 11290.

Determination of the bacteria from genus *Clostridium perfringens* it was performed using European Standard EN 13401:1999. The
investigation consisted in the detection of presence and number of colony forming units of Clostridium perfringens/cm² carcass area.

Determination of the bacteria from genus Salmonella, from wild boar meat it was performed according to SR ISO 6579/2003, respective SR ISO 6579/AC 2006 and SR ISO 6579/A1 2007. According to these standards Salmonella spp. must be absent on 25 g/ml product.

To reveal the presence of Escherichia coli species on wild boar meat, microbiological method was used to determine the number of Escherichia coli β – glucuronidase positive from food products of animal and non-animal origin in the conditions described in SR ISO 16649/2007. In our study we wanted to highlight the presence or absence of serotype E.coli O157:H7. For confirmation and serological identification of enterohemorrhagic Escherichia coli strains (EHEC) O157:H7 were performed slide agglutination assays with Escherichia coli O157 and Escherichia coli H7 antiserum.

RESULTS AND DISCUSSION

After the microbiological investigations performed on samples from the 28 carcasses of wild boars, were isolated and identified, on the basis of cultural and biochemical characters, 2 strains of Listeria monocytogenes (7.14%).

The bacteriological analysis of the harvested samples from wild boars meat carcasses has permitted the isolation and identification of the Clostridium perfringens species. The share of isolating these strains of Clostridium perfringens, was in 53.57%, aspect that indicates a lack of the slaughter hygiene or a series of weaknesses related to carcasses transport and storage.

Also, there were isolated, identified and confirmed biochemical 3 (10.7%) strains of Salmonella spp.

Bacteriological analysis conducted to identify the Escherichia coli species on the surface of the carcass of a wild boar, led to the isolation of 12 strains, with an incidence of 42.85%.

After the biochemical and serological testing, no E.coli strain isolated from the 28 slaughtered wild boars has been assigned to the serotype O157:H7. The lack of this serotype does not exclude its presence in the intestinal microbial portage of the wild boar, relating to existing data published in the specialty literature.

CONCLUSION

The wild boar constitutes an important natural reservoir for bacterial species with a zoonotic potential. The results of this study show that wild boars are often carriers of pathogenic agents that can cause food poisoning in humans. The high density of wild boar and growing population may increase the risk of transmission of these pathogenic agents.

The observations collected until now indicates that in the slaughtering process of wild boars contamination with bacterial pathogenic microflora cannot be avoided, but only limited.

REFERENCES