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TRICHINELLOSIS IN POLAND IN 2011

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ABSTRACT

PURPOSE OF THE STUDY. The purpose of the study was assessment of the epidemiological situation of trichinellosis in Poland in 2011.

MATERIALS AND METHODS. The evaluation was carried out on the basis of the analysis of data from the bulletin "Infectious diseases and poisonings in Poland. 2010", information from the questionnaires of individual cases and epidemiological investigations of the outbreaks of trichinellosis sent by the Sanitary-Epidemiological Stations and on data from Demographic Research Department of the Central Statistical Office. Cases were classified according to the current case definition.

RESULTS. In 2011, Poland recorded 23 cases of trichinellosis cases. The incidence was 0.06/100,000. There were reported 10 confirmed cases and 13 probable. There were no deaths from trichinellosis, but over 91% of infected persons were hospitalized. In 2011 three outbreaks of trichinellosis were recorded. One of them occurred in Dolnośląskie district, where cases of the infection are recorded sporadically. The epidemiological investigations established that the cause of the outbreak was consumption of wild boar meat products, mainly raw sausage. *Trichinella* containing meat products are prepared primarily for personal use, but are also distributed among family and friends.

CONCLUSION. The annually repeating outbreaks of trichinellosis mainly among family members indicates insufficient awareness of the risk of parasitic diseases caused by consumption of products containing raw or half raw meat of animals. Of the particular importance is to inform those who will give the carcasses of animals to test, about the limitations of the test method used.

Keywords: *trichinellosis, epidemiology, Poland, 2011*

INTRODUCTION

In Poland, trichinellosis is still current epidemiological problem, especially in areas where there is widespread habit of eating products made with raw or half raw meat of pigs or wild boars. As in other countries in the EU, infection in humans and animals with nematode *Trichinella* is covered by epidemiological surveillance.

The purpose of the study was assessment of the epidemiological situation of trichinellosis in Poland in 2011.

MATERIALS AND METHODS

The assessment of the epidemiological situation of trichinellosis in Poland in 2011, was based on the results

of data analysis: the annual bulletin "Infectious diseases and poisonings in Poland in 2011" (Czarkowski MP et al., Warsaw, NIPH-NIH and GIS, 2012), information from the questionnaires of individual cases and epidemiological investigations of the outbreaks of trichinellosis sent by the Sanitary-Epidemiological Stations and on data from Demographic Research Department of the Central Statistical Office.

Cases of human trichinellosis are classified on the basis of the case definition adopted by the European Commission in its decision of 28 April 2008, which was introduced for routine surveillance in Poland in 2009, which amends Decision 2002/253/EC. Cases are reported as caused by *Trichinella spp.*, unless use of molecular techniques specifies the species that caused the infection.

RESULTS

In Poland in 2011 there were notified 23 cases of human trichinellosis. The incidence rate was 0.06/100,000. Cases were recorded in five districts (Table I.). According to the definition 10 cases were classified as confirmed, and 13 as probable based on clinical symptoms and epidemiological link.

Table I. Human trichinellosis in Poland in 2011 by province and quarter

Province	No. of cases per quarter				total	Incidence rate per 100,000
	I	II	III	IV		
Dolnośląskie	11	-	-	-	11	0.38
Lubuskie	1	-	-	-	1	0.10
Mazowieckie	1	-	-	-	1	0.02
Podlaskie	-	-	2	-	2	0.17
Wielkopolskie	-	-	-	8	8	0.23
Poland	13	0	2	-	23	0.06

There were recorded one individual case and 3 outbreaks in which total number of 22 people got sick. Two cases occurred in children 9 and 14 years old. 21 patients were hospitalized (91%) - Table. II. As in the previous years, there were no deaths from trichinellosis.

Table II. Human trichinellosis in Poland in 2011. Number of cases by sex, age, urban/rural distribution.

Province	Gender		Children under 14	Place of residence		Hospitalization
	Female	Male		Town	Village	
Lubuskie	1	-	-	-	1	-
Mazowieckie	1	-	-	1	-	1
Podlaskie	1	1	-	-	2	1
Wielkopolskie	4	4	-	3	5	8
Total	15	8	2	4	19	21

Table III. Human trichinellosis in Poland in 2011. Animal sources of infection

Province	Quarter of illness	Number of				Animal sources of infection	method and result of carcass post-mortem inspection	vehicle of infection	Place on the market
		outbreaks	sporadic cases	exposed people	cases				
Dolnośląskie	I	1	-	111	12	wild boar	trichinoscopy - negative	ham, raw sausage	for own consumption
Lubuskie		1	-						
Mazowieckie	I	-	1	-	-	ND	NA	ND	ND
Podlaskie	III	1	-	4	2	wild boar	ND	different products from wild boar meat	for own consumption
Wielkopolskie	IV	1	-	16	8	wild boar	ND	raw sausage, raw ham	for own consumption
Total		3	1	131	22				

ND - not determined

NA - not applicable

In 2011, two outbreaks of trichinellosis were detected in regions where the disease occur regularly, almost every year. In these outbreaks there were limited numbers of exposed people who belonged to the family and circle of friends. The incidence rate for both outbreaks was about 50%.

It was also recorded outbreak in the Dolnośląskie district, where trichinellosis occurs sporadically (previous single case was reported in 2004.). The number of potentially exposed was 111 people, 93 of whom participated in the New Year's Eve party where meat products prepared from infested wild boar meat were served.

The three reported outbreaks were caused by the consumption of products prepared from the wild boar meat, mostly raw sausage. In two outbreaks infestation of meat was later confirmed by the positive results of the digestion method. Because in all of the samples the species of *Trichinella* larvae were not determined the cases have been classified as caused by *Trichinella spp.* In one outbreak infected wild boar meat was allowed to be eaten on the basis of false negative results of the examination after slaughter. Testing was performed by trichinoscopy which, according to the Polish law can be used to test wild boar meat (Table III).

SUMMARY AND CONCLUSIONS

1. In 2011, the number of registered cases of human trichinellosis was lower than the average number of cases in the last few years.
2. Outbreaks occurred in the provinces, in which every year are recorded incidents of trichinellosis, but also in Dolnośląskie district, where previously occurred only single sporadic cases.
3. The main source of infection with *Trichinella* in Poland at the present time is the wild boar meat and its products.
4. The repeated incidence of family trichinellosis outbreaks indicates insufficient awareness about the

risk of parasitic diseases caused by consumption of products containing raw or half raw meat. It is important to inform individuals who provides the carcasses of animals to test about the limitations of the diagnostic method used and the conditions for of the preparation of meat products.

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