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EPIDEMIOLOGICAL STUDY OF THE HYPERPLASIA LYMPH NODES INCIDENCE FROM SLAUGHTER PIGS

Dragos-Constantin COMAN[1], Emilia BALINT[2], Nicolae MANOLESCU[3]

[1]Sanitary Veterinary and Food Safety Department, 11 Corlatesti Street, Prahova, Romania, dragospus@yahoo.com
[2]University of Agronomic Sciences and Veterinary Medicine of Bucharest, 59 Marasti Blvd, Bucharest, Romania, emilia_balint@yahoo.com
[3]Romanian Academy, 125 Calea Victoriei, Bucharest, Romania, manolescunicolae@yahoo.com

Corresponding author email: dragospus@yahoo.com

Abstract

It is know that cellular immunity system has an overwhelming implication in pathology, therefore, if it has persistent stimulate, for a long period of time, the cellularity of it can undergo a marked changes, from the blast cells proliferation until the appearance of atypia and cellular monstrosity, thus foreshadowing the installation of the worst plague of our century, cancer.
Thus, chronic lymph node hyperplasies represent an anatomo-clinical manifestations of the borderline between benign and malignant, both histologic and clinic, involving, in the same time, the lymphocytic and reticulo-histiocytic cell lines. This chronic hyperplasia status may have a short-term evolution, ending with healing, but, in the same time, it may have a multi-relapse, wich, if is not treated, it will became a true malignant lymphoma.
Starting from these lesions, in this paper, we realised an epidemiological study, to the slaughtered animals from swine species, regarding the incidence of chronic lymph node hyperplasia, the precursor of malignant lymphoma, reported to the pathology and location of adenopathies.

Key words*: limph node, hiperantigenity, swine.*

INTRODUCTION

The food is the most important factor who influencing the organism in different senses, and this interdependence is directly conditioned by the sanitation and trophico-biological quality. (Stănescu et. al., 1998; Rusen et al., 2007; Tudor 2005).
Thus, one of the important branches of veterinary medicine is represented by the insurance of a safe animal origin food, which doesn't present a risk to the consumer (Tudor et al., 2009).
The increase of the population and, implicitly, the demand for food, supplemented by the particularities of the life standard, determinated an increase of culinary preferences oriented towards meat and meat products (Kearney, 2010; Modlinska and Wojciech, 2018;
Raasadhika et al., 2018; Brian A. et al., 2014), which determinated the elaboration of strict legislative norms regarding the consumption of animal origin foods, the illnesses animals being a real challenge for the specialists from public health, researchers, microbiologists and hygienists (Regulation (CE) No 178/2002, Regulation (CE) nr. 2073/2005, Regulation (CE) nr. 853/2004).
To assesse the health animals status of the slaughtered swines, for 4 years period, the authors carried out an epidemiological study about the incidence of lympho nodes hyperplasia, according to different parameters such as visceral lesion picture or localization of adenopathies.

MATERIALS AND METHODS

The researches of the present study were conducted over for a 4 years, within an authorized slaughterhouse in Prahova county, on a number of 149 animals of the swine species that, to the post-mortem examination of animal carcasses revealed chronic anatomical-pathological changes in the lung, liver, cardiac, splenic, etc. Also, during the investigations we

have observed changes like shape, size, color, consistency, to the level of the adjacent or satellite lymph nodes of these tissues or organs, but also adenopathies that were not accompanied by visceral changes, which determinated us to focus on the microscopic study of these hematopoietic structures, by making smears of lympho nodal juice, using the May-Grunwald Giemsa staining method.

RESULTS AND DISCUSSIONS

Based one the cytomorphological results, we detected 4 categories of chronic reactivity status of limph nodes of, respectively: chronic inflammation, benign lymphoreticular hyperplasia, aggravated lymphoreticular hyperplasia and malignant pre-lymphoma. Thus, following of these results, we realized an epidemiological study on the incidence of lymphonodal morphological statuses depending on the chronic pathology detected and the topographic location of the adenopathies.

1) The epidemiological study related to the clinical pathology detected

The visceral pathology revealed, following the post-mortem examination of the swine carcasses, comprises a wide range of pathological disorder such as: fibrous pericarditis, cardiac dilatation due to functional impairment, chronic bronchopneumonia, hepatomegaly, splenomegaly, gastritis, hydatidosis, enteritis, etc.

The incidence of visceral pathology to the animals with benign lymphoreticular hyperplasia in the affected lymph nodes is marked by the chronic bronchopneumonia (41 cases), representing 72% from total - Chart 1.

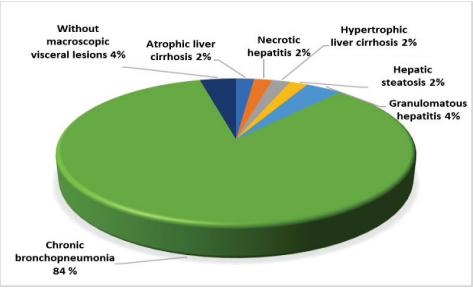

Chart 1. The incidence of visceral pathology to the swine with lymphonodal status of benign lymphoreticular hyperplasia

As with the previous status, the aggravated hyperplasia is dominated by the incidence of pulmonary pathology, respectively chronic bronchopneumonia 58.7% (37 cases) - Chart 2.

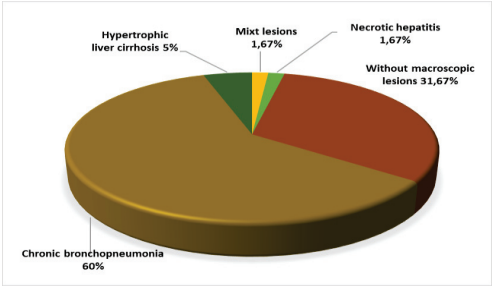

Chart 2. The incidence of visceral pathology to the swine with lymphonodal status of aggravate lymphoreticular hyperplasia

The visceral lesions detected in the case of lymphonodal status of malignant pre-lymphoma are bronchopneumonia 48% (11 cases), splenomegaly 18% (4 cases), hydatidosis - 8% (2 cases: pulmonary - 1 case, hepatic - 1 case), hepatomegaly 4% (1 case) and fibrous pericarditis 4% (1 case). Also there were 4 cases (20%) without macroscopic visceral lesions, but with single or multiple lymphadenopathy, which, from cytomorphological point of view, presented lesions of the malignant pre lymphoma - Chart 3.

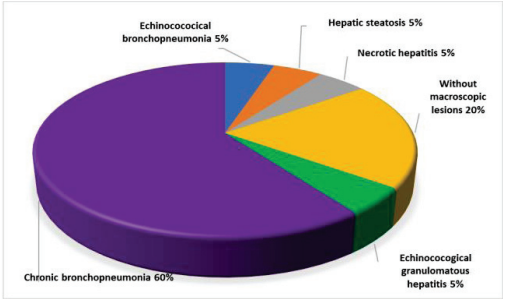

Chart 3. The incidence of visceral pathology to the swine with lymphonodal status of pre-lymphoma

2) The epidemiological study related to the location of the adenopathies

The location of the adenopathies, after the post-mortem examination of the slaughtered swine, both in the visceras and in the carcass, revealed that the trachea-bronchial lymph nodes were the most affected, respectively 120 in cases, as

shown in table no. 1, where it is observed that in all the statuses of lymph node disorders they occupied the first place. The second localization as an incidence was found in the mediastinal lymph nodes, being present in 53 cases. Other locations of adenopathies can be found in the above Table 1.

Table 1. Localization of chronic lymph node lesions according to the cytomorphological statuses

	M	T	La	R	C	S	P	Mz	Pp
Benign lymphoreticular hyperplasia status	19	43	1	3	-	-	5	-	-
Aggravated lymphoreticular hyperplasia status	15	46	1	-	2	2	1	12	-
Malignant pre-lymphoma status	3	14	-	-	1	3	1	1	1
Multiple, mixed lymph node lesions	16	17	2	-	-	2	-	1	-
TOTAL	53	120	4	3	3	7	7	14	1

*M-mediastinal, T- tracheobronchial, La-lomboaortic, R-renal, C-celiac, S-splenic, P-portal, Mz-mezenteric, Pp-popliteu

CONCLUSIONS

The incidence of visceral pathology in slaughtered pigs was dominated by chronic bronchopneumonia, in all 4 lymph node reactive statuses;

The most affected lymph nodes were in the respiratory sphere, respectively the tracheobronchial lymph nodes;

The need to implement a normative act regarding the consumption of carcasses and organs from animals with pre-neoplastic or neoplastic pathology, given that their metabolism is profoundly affected by the presence of this systemic disease.

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