

PATHOLOGY OF WILD BOAR (*Sus scrofa*) IN LIGURIA, ITALY, BETWEEN 1989 AND 1992

Mignone W. *, Poggi M. *, Pistone G.C. *, Caramelli M. **, Bollo E. ***, Biolatti B. ***

* Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta, Sezione di Imperia, via Nizza 4, 18100 Imperia, Italy.

** Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta, via Bologna 148, 10100 Torino, Italy.

*** Dipartimento di Patologia Animale, Università di Torino, via Nizza 52, 10126 Torino, Italy.

Abstract: During the hunting season of four years (1989 - 1992), organs and whole bodies of wild boars have been examined following a routinary investigation concerning trichinellosis and the presence of pathological lesions. The following lesions have been detected: 1 (0.01%) case of trichinellosis out of 7,282 examined samples; 17 (4.3%) cases of tuberculosis and 55 (13.9%) cases of tuberculous-like lesions out of 395 examined samples; 5 cases (2.9%) of localizations of *Cysticercus tenuicollis* in the liver and 1 (0.6%) case of hydatidosis with localization of the cyst in the lung out of 172 examined samples; 86 (36.9%) cases of verminous bronchopneumonia out of 233 examined samples; 2 (3.2%) cases of hydrometra and 1 (1.6%) case of subperimetrial cysts out of 62 examined samples. Four cases of Sarcoptic mange have also been diagnosed. The examination, in the same period of time, of 24 wild boars found dead revealed the presence of bronchopneumonia in 6 (25%) subjects, gastroenteritis in 4 (16.7%) subjects and injuries in 16 (66.7%) subjects. The relationship of the examined diseases with the human health along with the importance of the veterinary control in order to assure the food safety for the human consumption are discussed.

Keywords: Wild boar, *Sus scrofa*, Suidae, Parasites, Diseases, Human health.

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1. Introduction

Every year about 6,000 wild boars are hunted in the Liguria region (Italy). That number in the last few years has been constantly increasing and, according to the prevision, will continue also in the future. Usually the hunted animals are subjected only to trichinoscopic examination (Ord. Reg. Lig. 1161, 31 Nov. 1988). In order to evaluate the hazards for the public health deriving from the consumption of this meat and to know the diffusion of the most relevant diseases of this species, a sample of animals has been examined. The animals have been collected during four hunting seasons from 1989 to 1992 in the hinterland of Imperia and La Spezia provinces (Liguria). The animals were aged from three months to four years, mostly younger than one year.

2. Results and discussion

The following pathologies have been detected (Tab. 1):

Trichinellosis: samples of tongue and diaphragm from 7,282 wild boars have been examined. Only one adult male was found naturally infected with *T. britovi* (T3): it showed 120 larvae/g in the diaphragm. Macroscopically no lesions were found.

Tuberculosis: 395 animals were examined for tuberculosis; 17 (4,3%) showed typical tuberculous macroscopic lesions. All these animals showed multiple nodules in submandibular and retropharyngeal lymphonodes. In 9 animals lesions were detected also in lung and mediastinic lymphonodes, in 4 animals in liver, in 2 animals in periarticular carpal tissue and in 1 animal in spleen, inguinal and prescapular lymphonodes. The lesions appeared as multiple nodules characterized by a central caseous area of necrosis often associated with calcification and surrounded by a connective reaction. Peripheral tissue appeared hyperplastic and hyperemic. The size varied from 2-3 mm to 4-5 cm, in some cases, in several nodules located in the lymphonodes, the necrotic areas assumed a radiated pattern. In the lung the nodules were distributed either deep into the parenchyma or well visible under the pleura. In the liver the nodules were distributed both in the parenchyma and in the periportal lymphonodes. Histology of the lesions showed characteristic granulomas having a necrotic caseous and often calcified center surrounded by epithelioid and giant cells along with granulation tissue. Immunohistochemical staining of typical lesions showed several positive foci, mainly localized in the peripheral areas of granulomas.

Table 1: Lesions detected in wild boars in Liguria from 1989 to 1992.

Lesion	No of animals examined	No of cases detected	%
Trichinellosis	7282	1	0.01
Tuberculosis	395	17	4.3
Tuberculous-like lesions	395	55	13.9
Verm. br. pneumonia	233	86	36.9
Cysticercosis	172	5	2.9
Hydatidosis	172	1	0.6
Hydrometra	62	2	3.2
Subperimetrial cyst	62	1	1.6
Sarcoptic mange	-	4	-
Broncho-pneumonia	24*	6	25
Gastroenteritis	24*	4	16.7
Traumatic lesions	24*	16	66.7

*Animals found dead

Isolation attempts performed on samples obtained from typical lesions allowed to culture in 6 animals acid-fast bacilli which for growth rate, growth temperature and pigment production were attributed to the complex *M. tuberculosis*. Biological testing gave the following results: 6 subjects positive for *M. bovis* and 4 subjects positive for *M. tuberculosis*.

Tuberculous-like lesions: 55 (13.9%) out of 395 animals showed these lesions localized only in the submandibular and retropharyngeal lymphonodes. Lesions were characterized by central necrosis and calcification with absence of a radiated pattern. The necrotic material was easy to detach from surrounding tissue; the latter appeared hyperplastic. The size varied from 1 mm to 3-4 cm; in some cases several nodules aggregated in a single lesion. Histological examination showed the presence of a necrotic centre surrounded by a thin connective capsule, while the inflammatory reaction was absent; no giant cells were observed.

Verminous broncho-pneumonia: 233 lungs have been examined, 86 (36.9%) were positive for parasites belonging to the family Protostrongilidae. The lesions were represented by foci of emphysema in the apical lobes, the bronchi were full of adult parasites. In subpleural position nodules of a rice-grain size were also found.

Cysticercosis: 172 animals were examined for cysticercosis. *C. tenuicollis* (*T. marginata* or *hydatigena*) was the only species detected in the

liver of 5 animals (2.9%); it had the typical cystic aspect with a diameter of 2-3 cm containing a clear fluid in which it was visible the protoscolice.

Hydatidosis: 1 case of hydatidosis has been detected out of 172 examined animals. 5 sterile cysts were found, 2 to 5 cm size, distributed in the lung.

Genital lesions: 62 female genital tracts were examined: two uteri (3.2%) showed hydrometra characterized by a collection of clear watery fluid into the lumen. One uterus (1.6%) had a 4 cm wide subperimetrial cyst localized at the confluence of the horns, having a thin and transparent wall containing clear fluid, probably of congenital origin.

Sarcoptic mange: 4 wild boars showed thick, wide cutaneous areas of alopecia with scabs localized on the head, neck, back and thigh. Microscopic examination of the scraping revealed mite of the genus *Sarcoptes*.

Broncho-pneumonia and gastroenteritis: the lesions observed in these cases were similar to those non-specific observed in domestic pigs.

Traumatic lesions: The cases reported (16 out of 24) were consequences of car accidents or falls in precipices. The examination of this 24 wild boars found dead revealed the presence of bronchopneumonia in 6 (25%) subjects, gastroenteritis in 4 (16.7%) subjects and injuries in 16 (66.7%) subjects.

Cardiac and renal pathological lesions observed in this survey are object of two other communications of the Symposium.

This study reveals that several diseases, including zoonoses, can affect the Wild boar living in the Liguria hinterland. Although all of them are of scientific interest, it must be pointed out that the Wild boar is carrying a number of lesions which harbours parasites or infectious agents potentially dangerous for the human health (*i.e.*, mange, trichinellosis, tuberculosis). Therefore the authors believe that a strict veterinary control is needed before licensing the meat of this species to the human consumption.

The material, methods and references are not stated in this paper, but they are available from the authors.