

EPIDEMIOLOGICAL SURVEILLANCE AND CONTROL OF TRICHINELLOSIS IN BUENOS AIRES PROVINCE

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Summary :

The Ministries of Health and Agrarian Concerns created in 1994 the "Zoonosis Commission", a working group of professionals of both institutions, for improving the epidemiological surveillance and control of trichinellosis in Buenos Aires Province. The main purpose was the early detection and control of swine trichinellosis, for reducing human outbreaks, the strategy of action was to decentralize epidemiological surveillance and control activities at municipal level, integrating 101 counties of the endemic area. Since 1996 a high number of infected pigs were detected previously to human consumption (years 1996-1999: 1,073 infected pigs), and since 1997 the occurrence of human outbreaks and swine foci have decreased.

KEY WORDS : trichinellosis, surveillance, control.

Buenos Aires is the largest Province in Argentina not only in extension (307,571 square km) but also in population (14,204,700 inhabitants). Annually several outbreaks of trichinellosis take place mainly during the winter season (Bolpe & Caminoa, 1994), human infection may appears as isolated cases or affecting different groups of people who ate insufficiently cooked or raw pork, causing outbreaks or true epidemics when the infected food is produced by food factories with failures in the sanitary inspection (Bolpe & Caminoa, 1994, Venturiello *et al.*, 1993). Swine trichinellosis is usually maintained in nature on pig farms by poor basic environmental sanitation that allows close contact of pigs with wild animals (rats, etc.) and sometimes the feeding of pork with restaurant garbage without heat treatment, facilitates the animal infection (Venturiello *et al.*, 1993).

Pigs slaughtered in the farms without veterinary inspection are the most common cause of the human outbreaks in Buenos Aires Province. During past years (1975 to 1990) the annual occurrence of the disease was limited in an area located in the south-west of the territory, but since 1991 human outbreaks have spread in the whole province. The human casuistry has been

increased during the last decade until 1997, overcoming the mean of 100 human cases per year and, at the same time, the occurrence of swine trichinellosis foci has increased (Bolpe & Caminoa, 1998).

In the present paper, we describe the evolution of trichinellosis in Buenos Aires Province and the epidemiological surveillance and control activities made by Ministries of Health and Agrarian Concerns working together since 1994.

MATERIAL AND METHODS

EPIDEMIOLOGICAL SURVEILLANCE AND CONTROL ACTIVITIES

Human trichinellosis Every suspected case (patient with clinical signs and symptoms compatible with the disease) detected by municipal hospital or health center, must be reported to ministry of health, Department of Zoonosis Rurales, sending serum samples, in order to make epidemiological examination and immunological studies for confirmation. When a human outbreak is detected, the municipal health authorities, helped by Health and Agrarian Concerns Ministries, make the research and control activities (identification of infected food, diagnosis and treatment of human cases, interdiction of farms or/and food stores, etc.). All the information about human trichinellosis, is put on record and annually published by Health Ministry.

Swine trichinellosis

In Buenos Aires province, the official inspection of swine is done by Agrarian Concerns Ministry. Since 1996 all pigs slaughtered for comsumption have to be examined for trichinellosis by the artificial digestion method. In case of home killed swine, the examination is done by Municipal veterinary public health services, or private veterinarians. A positive finding results in a closer investigation and interdiction of the farm, sending the herd of swine to abattoir with sanitary inspection. The information of abattoirs from all the pro-

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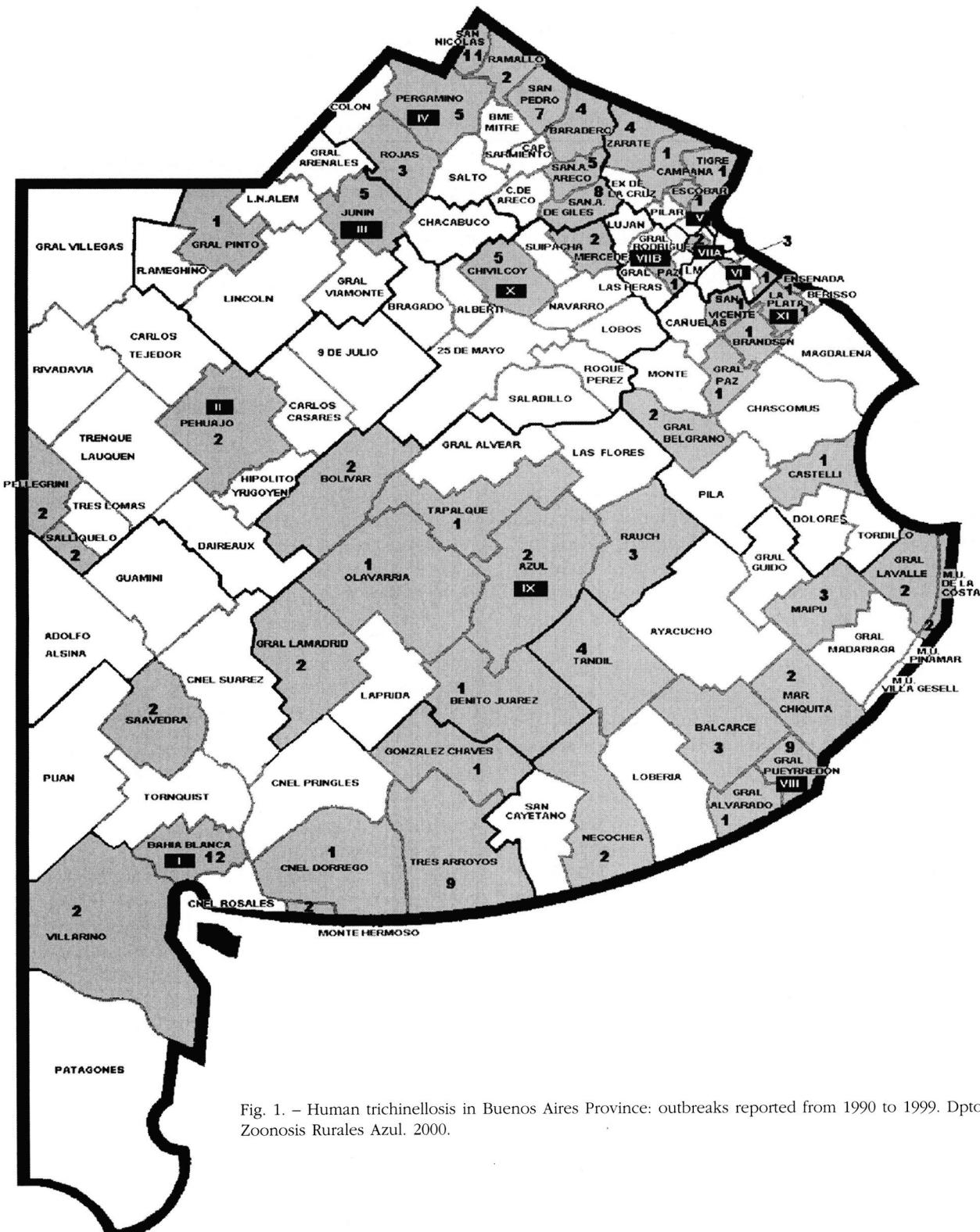


Fig. 1. – Human trichinellosis in Buenos Aires Province: outbreaks reported from 1990 to 1999. Dpto. Zoonosis Rurales Azul. 2000.

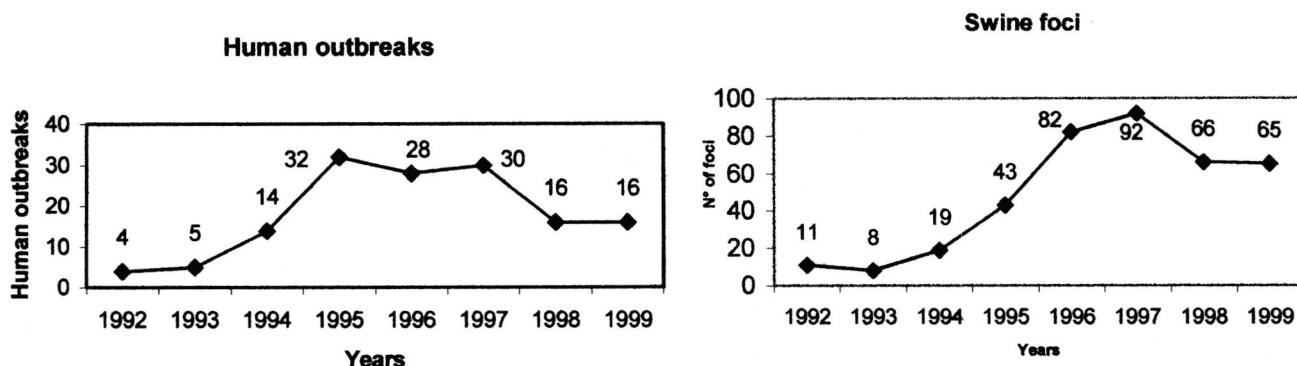


Fig. 2. – Human outbreaks and swine foci of trichinellosis controlled in Buenos Aires Province (1992-1999). Health and Agrarian Concerns Ministries, 2000.

vince is recorded and published by Agrarian Concerns Ministry.

In order to improve the epidemiological surveillance and control of the disease, the Ministries of Health and Agrarian Concerns created in 1994 the "Zoonosis Commission" a working group of professional from both institutions and different public and private settlements: Universities of La Plata, Buenos Aires and Centre; Faculties of Medicine and Veterinary Medicine; National Health Office; National Institute of Microbiology and National Institute of Epidemiology; National Agrarian and Cattle Office; and Buenos Aires Ministry of Education.

The main purpose of the commission was the early detection and control of swine trichinellosis for reducing human casuistry. The action strategy was the decentralization of epidemiological surveillance actions in the municipalities. The main objectives were: to improve diagnosis quality promoting the use of peptic digestion test at slaughterhouses and domestic killing, to train municipal veterinarians and technicians in subjects like food inspection, sanitary killing, laboratory and legislation, and to develop an educational project designated "knowledge of trichinellosis in the basic school", producing annually leaflets for teachers and booklets intended for pupils of sixth form of the provincial official basic school.

During 1996, sixteen workshops about trichinellosis were made in different places of the Province with veterinarians and technicians that belong to 101 municipalities of the endemic area, organizing the surveillance system.

RESULTS

As a result of the different activities mentioned above, closely coordinated between Health and Agrarian Concerns it was possible to improve:

Years	No. of swine foci	No. of pigs sent to sanitary killing	No. of positive pigs detected at abattoir
1996	82	2,123	199
1997	92	4,313	374
1998	66	1,889	129
1999	65	2,250	371
Total	305	10,575	1,073

Table I. – Swine Trichinellosis in Buenos Aires Province: sanitary killing of pigs from infected farms detected by Agrarian Concerns office (1996-1999).

EPIDEMIOLOGICAL SURVEILLANCE AND CONTROL OF TRICHINELLOSIS OUTBREAKS

It was possible to detect a high number of infected pigs previous to human consumption. From 1996 to 1999, helped by municipal veterinarians, several swine foci were detected sending 10,575 pigs to abattoir, removing 1,073 infected animals (Table I).

During the last decade 156 human outbreaks with 3,072 cases of trichinellosis were found by the provincial health system, located in different Municipalities of the Province (Fig. 1). The local authorities of health and veterinary were helped by the Ministries of Health and Agrarian Concerns, in the epidemiological investigation and control. Since 1997 the annual occurrence of human outbreaks and swine foci have decreased (Fig. 2).

HEALTH EDUCATION

Since 1995, 127 school districts of the province have received annually 12,000 leaflets, a document aimed to teachers where the characteristics of the disease are presented, its evolutionary cycle and preventive measures to take, and 100,000 booklets destined to pupils, where emphasis is made in the preventive measures.

DISCUSSION

The "Zoonosis Commission", a model of work with the impartiment of municipal (medical and veterinary) authorities of the endemic area, allowed to improve the epidemiological surveillance of the disease, controlling a lot of infected piggeries and farms, sending all the infected pigs to sanitary killing. As a result the human outbreaks decreased. The training of municipal veterinarians and technicians in laboratory diagnosis spread the use of peptic digestion test at slaughterhouses and domestics killing, changing the trichinelloscopy method for a more efficient diagnosis system.

The permanent presence of the educational project designed by the commission, will guarantee the community conscience.

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