



RABIES VACCINE HISTORY IN SPAIN

UAB
Universitat Autònoma
de Barcelona

· Marcos Esteller González ·
TFG – June 2024

RABIES: SHORT INTRODUCTION

- It's a **viral disease** that affects **mammals' nervous system**.
- It's mainly found in **nervous tissue** and infected individuals' **saliva**.
- If the patient isn't treated in time it will develop **hydrophobia** and an **acute encephalomyelitis** that is often fatal.
- It's a **worldwide distributed** disease.
- It's a **zoonotic disease** and its eradication difficulty comes from the large amount of reservoirs and its presence in developing countries.

RABIES ALONG THE HISTORY

ANCIENT WORLD

The first writing, in which this disease is mentioned, is the **Eshunna's Codex** found in Mesopotamia.

During the classic Greece, rabies was so relevant they had two gods who protected them from it: **Artemis** and **Artistaeus**. The disease is also named in "*The Iliad*" (Homero).

Plutarch from **Chaeronea** and **Aristotle** (s. I - IV BC) already believed that rabies **propagation** was **caused by the infected animals' bite**.

Aurelian (s. III) was the first to describe **hydrophobia** in rabies.



Image extracted from George, A. 2009.

MEDIEVAL AGE

During Middle Age the Christian society related health issues to sins, and because of this, rabies was treated by prayers, penances and pilgrimages to **Saint Quiteria** and **Saint Humberto from Ardennes**.



Extracted from Laval, R., & Lepe, I. 2008.

Another method was **Saint Humberto's keys**: the ritual consisted in heating up the key and placing it in the bitten dog's forehead.

The first known rabies epidemic occurred in a French village in **1271** because of an attack caused by infected wolves.

MODERN AGE

During this stage different rabies outbreaks kept emerging all around Europe. After European arrival to America, the sickness was introduced to the continent.

Also, in America, rabies was spread through **bats**.

CONTEMPORARY AGE: The bacteriological revolution

After the smallpox vaccine discovery many scientists started investigating microorganisms, including **Louis Pasteur**.

His most relevant findings were: **rabies agent's ultramicroscopic nature**, its presence in the **spinal cord** and **encephalon**, its transmission through **intercelebral interlocation**, its **incubation period**, its **conservation** and its **attenuation** and **fixation** by the **canine vaccine discovery**.

RABIES SITUATION IN SPAIN BEFORE VACCINE

The first writing about rabies found in Spain was "*De re Rustica*" by **Columela**.

Saint Isidoro from Seville was the first Spanish author to affirm that rabies could be spread from the saliva when it made contact with the blood through a bite.

At the end of the middle age a type of healers called "**saludadores**" emerged. They affirmed they could heal rabies with their saliva and breath.

In **1786** one of the **first laws to fight rabies** was enacted.

It wasn't until s. XIX that "**albéitares**" got interested in canine health and from then on they worked hard on improving the rabies situation in Spain

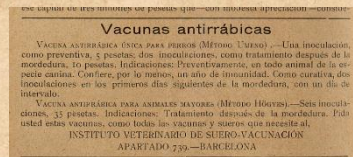
VACCINE ARRIVAL TO SPAIN

In 1899 the **Institute of serum therapy, vaccination and bacteriology** "**Alfonso XIII**" was founded.

In 1914 the government published the **epizootic law** and in 1917 the **zoonosis regulation**.

The most used rabies vaccine elaboration method was the one discovered by the Japanese **Umeno et Doi** in 1921.

One of the most important rabies vaccine distributors was the "**Instituto Veterinario de Suero-Vacunación**" from Barcelona.



Extracted from the newspaper "La Semana Veterinaria", 1928, vol XI, num 592, p. 326

ANTI-RABIES MESURES AND SOCIETY AND DIGITS EVOLUTION CONSQUENT

To eradicate rabies in Spain, three main goals had to be achieved:

- To **stop the "saludadores" activity**.
- To **find right methods** alongside the vaccination plan to get rid of rabies.
- To **elaborate the necessary laws** for assuring the compliance of the points mentioned above.

After following these measures:

- **Rabies cases in humans** decreased from 1680 cases in 1900-1940 to 0 cases in 1961-1963.
- **Rabies cases in animals** went from 5052 cases in 1911-1920 to decrease slowly until 1966, when rabies was finally considerate eradicated.

CONCLUSIONS

Alarming points at present:

- Sporadic rabies outbreak.
- Presence of rabies in Chiropterans.
- Geographic situation in Spain.
- Tourism with pets.

Acting methods:

- Obligated annual vaccine and the registry of animals.
- Encourage and subsidize investigating groups.