Ticks: Rocky Mountain Spotted Fever

Jose Lapenta*, Jose Miguel Lapenta

University of Carabobo, J Medic Surgeon, Specialty Dermatology, CEO Dermagic express, Venezuela

*Corresponding author: Jose Lapenta, University of Carabobo, J Medic Surgeon, Specialty Dermatology, 24 years of exercise. Highly trained in the field of Leprology, CEO Dermagic express, Venezuela, Email: dermagicexpress@gmail.com

Abstract:

In this publication we present you another disease caused by the bite of several TICKS: ROCKY MOUNTAIN SPOTTED FEVER, which is caused by a bacterium named Rickettsia Rickettsii, and by another recently discovered bacterium, Rickettsia Parkeri. This disease, described since the 1900s, is disseminated from North America to South America. The purpose of this publication is to provide information about the main vectors of the disease, how it is transmitted, its symptoms, treatments and to alert the world once again that these parasites, ticks, are the new plague of the 21st century.

Keywords: Rocky Mountain spotted fever; Spotted fever; Typhus by ticks; Black measles, Dermacentor anderson; Dermacentor variabilis; Rhipicephalus sanguineous; Rickettsia rickettsii; Rickettsia parkeri

Introduction

Hello friends of Ommega, we bring you another interesting topic about the TICKS and the diseases they transmit, in this case it is the ROCKY MOUNTAIN SPOTTED FEVER (RMSF), which is transmitted by the a tick bite and disseminated not only in the United States, but has also been described in the AMERICAS under the name of “Sao Paulo fever” or “Maculosa Fever” in BRAZIL; “Spotted fever” or “tick Typhus” In MEXICO; or “Tobia Fever” in COLOMBIA. Cases have also been described in Costa Rica and Panama[1-5].

This disease is caused by the bacterium called Rickettsia Rickettsii, a gram-negative intracellular cobacillus considered to be the most pathogenic strain in the Western Hemisphere and in a small part of the Eastern Hemisphere. It belongs to the Rickettsiaceae Family, Order: Rickettsiales, Class: Alphaproteobacteria, Domain: Bacteria, Genus: Rickettsia and species: Rickettsia Rickettsii. The disease extends from Canada to South America, and is the most frequent rickettsial disease in the United States[6-10].

The main tick transmitter of this bacterium are the ticks of the Dermacentor genus, Family Ixodidae, known as “hard ticks” which, in addition to transmit the Rickettsia Rickettsii, are transmitters of other diseases such as: Tick Paralysis (neurotoxin); the Powassan virus (Powassan encephalitis); the Fever Q (Coxiella burnetii); Anaplasmosis in cattle and humans (Anaplasma Marginalae and Anaplasma spp.); Tularemia (Francisella tularensis) and Babesiosis in equine (piroplasmosis) and humans (Babesia Caballi and Babesia spp.)[11-18].

The Dermacentor genus of ticks belongs to the Ixodidae Family and has more than 34 described species and the most commonly involved in the Rocky Mountain Spotted Fever are Dermacentor Andersoni (Rocky mountain tick) and Dermacentor Variabilis (American dog tick or Wood Tick), which is the second main vector causing this disease.

Received date: May 5, 2018
Accepted date: July 27, 2018
Publish date: August 2, 2018


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It was Willy Burgdorfer who linked Rocky Mountain spotted fever to the Rickettsias. In fact, between 1967 and 1978, when he was investigating the Rickettsial Zoonoses in Egypt he was relocated by the WHO (1976-1986 - World Health Organization) to Montana, United States, and in the course of his investigations he discovered the feared Spirochete Borrelia in 1981 which carries his surname Burgdorferi in his honor.

These ticks are the natural hosts and they serve as reservoirs and vectors; they transmit the Rickettsia through their bites of vertebrates mammals and man, and unlike other diseases they only need two hours to be attached to the skin to cause transmission of the disease; so the disease is a zoonosis, transmitted from animals to man. It can also be transmitted through fluids, tick feces and contaminated tissues.

Symptoms: Symptoms of the disease appear after an incubation period of 1 to 2 weeks, (can affect children and adults) and include three stages:

Initial phase: fever, headache, nausea, vomiting, loss of appetite, mumps.

Secondary phase: characterized by maculous and petechial rash, abdominal pain, conjunctivitis and joint pain.

Posterior or late stage: the Rickettsia may invade the brain, heart, eyes, lungs, kidneys, gastrointestinal tract, and other organs causing definitive sequel such as: deafness, ataxia, blindness, and loss of bladder and bowel control and in extreme cases amputation of limbs by gangrene. Mortality in severe cases: 30-80%.

The “Classical Triad” of this disease in terms of symptoms is: Fever, Maculous, Petechial Eruption and the Precedent of Tick Bite. It should be noted that only 35 to 60 % of patients manifest the complete triad; 40 % do not present the typical rash of the disease. It is presented in a centripetal form, spreading from the extremities to the trunk[1-32].

Treatment

The treatment of choice for the Rocky Mountain Spotted Fever (RMSF) is Doxycycline (tetracycline antibiotic), the same medication used to treat Lyme disease and Ehrlichiosis, which is administered for a period of 10 to 14 days, and in some cases may be longer. The other antibiotic that is shown to be effective against Rickettsias is chloramphenicol, but this medication should be used with caution because it has many side effects.

Following is a list of nine (9) diseases caused by seven (7) ticks: (Including the ticks of the Family ixodidae: Ixodes Scapularis or the black legged tick)

Rocky Mountain spotted fever (Rickettsia Rickettsii).
Powassan Encephalitis (Powassan virus, flavivirus).
Tick Paralysis (neurotoxin).
Ehrlichiosis (Ehrlichia chaffeensis, Ehrlichia ewingii).
Human Granulocytic Anaplasmosis (Anaplasma spp)
Babesiosis in Animals and Humans (Babesia spp).
Fever Q (Coxiella burnetti).
Tularemia (Francisella tularensis).
Lyme Disease (Ixodes Scapularis)[1-32]
“... perhaps other diseases .... Today not well documented or simply man has not discovered yet.”

Conclusion

On the web you can find thousands of articles about the Rocky Mountain Spotted Fever (RMSF), history and symptoms, but for us the main objective of this publication is to make you understand the following:

• These ticks are distributed practically all over the planet.
• Transmitted parasitic diseases with risk of mortality pose a real and present public health danger if the diagnosis and treatment are not made in time.
• Some of the transmitted diseases are resistant to treatments such as Lyme disease, causing permanent disabilities, confining patients to wheelchairs for life.
• In addition to fighting against tick-borne diseases such as Lyme disease, the efforts should be devoted to control and eliminate ticks and their hosts.
• The Codes Icd-11 (International Classification of Diseases, year 2018) for the Rocky Mountain spotted fever have been recognized by the World Health Organization (WHO) a long time ago, but for entities like Lyme disease, the scientific community and the affected population await their inclusions.
• The new plague of the 21st century are not caused by mosquitoes (Dengue, Zika and Chikungunya), but by ticks[33-38].

“... Humanity is not going to be extinguished by atomic bombs... perhaps other diseases .... Today not well documented or simply man has not discovered yet.”

References

Pubmed | Crossref | others

Pubmed | Crossref | others

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Pubmed | Crossref | others

Pubmed | Crossref | others

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Pubmed | Crossref | others

Pubmed | Crossref | others

Pubmed | Crossref | others

Pubmed | Crossref | others

Pubmed | Crossref | others

Pubmed | Crossref | others

Pubmed | Crossref | others


Amblonyx americanum (Lone star tick). Wisconsin Ticks and Tick-borne Diseases.


Pedro-Pons, A. Patología y Clínica Médicas (1958)

History of the development of the ICD.


Online ICD9/ICD9CM codes.

ICD-10 Version 2016.

2018 New ICD-10-CM Codes.

Information from World Health Organization (WHO): List of Official ICD-10 Updates. For the ICD-11 revision: The ICD 11th Revision is due by 2017 (Archived, Feb. 2014);

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