

SARAIVA, R. S. P. Incidence of Visceral Leishmaniasis in Paraíba Patients

Rivanha Soares Pinto Saraiva

Clinical pathologist biomedicine, Master of Science in Healthcare Management, Postgraduate in Hospital Management, Postgraduate clinical analysis and microbiology, Postgraduate teaching in higher education.

***Corresponding Author**

Rivanha Soares Pinto Saraiva,
Clinical pathologist biomedicine, Master of Science in Healthcare Management, Postgraduate in Hospital Management, Postgraduate clinical analysis and microbiology, Postgraduate teaching in higher education

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Abstract

Introduction: *Leishmaniasis is caused by a protozoan heteroroxênico, intracellular binding, which affects the cells of the phagocyte system mononuclear of several species of animals. In Brazil, Leishmania chagasi is the most common etiology of visceral leishmaniasis, is transmitted by a vector insect blood-sucking sandfly, species Lutzomia longipalpis*

Objectives: *This study aimed to evaluate the number of cases of leishmaniasis American Visceral Paraíba in the years 2007-2015.*

Methodology: *This is a retrospective study with a quantitative approach, from data from the DATASUS. The population for the study were all cases of Leishmaniasis confirmed in the city of Cajazeiras PB.*

Results: *It was noticed from the analysis of the results, the number of disease cases in paraíba fluctuates a lot, and in recent years the number of cases of percentage reached high levels as in 2014 reached 60 cases, and 2015 with total of 45 cases. Conclusion: Many challenges must be overcome in fighting this disease, but the emphasis should be on scientific, technological development and innovation in health. more studies for the development of new drugs, drug regimens and clinical management protocols are needed, and for this, a survey of numbers of cases is important, as it will give subsidy for efforts to be made, especially in areas of high prevalence of disease.*

Keywords: Leishmaniasis, DATASUS, epidemiology.

Introduction

Visceral Leishmaniasis (VL) is a growing disease, considered a major public health problem. Due to its high incidence and lethality, VL is one of the six endemic diseases of priority concern in the world. In Brazil, VL, also called kala-azar, behaves as a zoonanthroponosis. In recent decades, it has presented a different configuration in both transmission and manifestation, previously considered a rural and peri-urban endemic, and currently it has been occurring in urban areas. Although VL occurs in 12 countries in Latin America, 90% of it is in Brazil, especially in the northeast region (BRASIL, 2006), with the causes being attributed to climatic, social and economic factors (COSTA, 2005).

Visceral leishmaniasis is caused by a heteroroxenic, obligate intracellular protozoan that affects the cells of the mononuclear phagocytic system of several species of animals. In Brazil, *Leishmania chagasi* is the most common etiology of visceral leishmaniasis, and is transmitted by a vector, the hematophagous sand fly of the species *Lutzomia longipalpis* (REY, 2008). The main form of transmission of the parasite to humans and other mammalian hosts is through the bite of female dipterans of

the Psychodidae family, subfamily Phebotominae, generically known as sand flies. *Lutzomyia longipalpis* is the main species that transmits *L. chagasi* in Brazil. The wild hosts of *L. chagasi* known to date are foxes and marsupials, and in the domestic environment, dogs are considered an important host and source of infection for vectors, and are one of the targets in control strategies (NEVES et. al., 2012).

VL presents clinically as a chronic disease, characterized by long-lasting fever, hematosplanomegaly, lymphadenopathy, anemia with leukopenia, hypergammaglobulinemia and hypoalbuminemia, weight loss, edema and a state of progressive weakness, leading to cachexia and even death. Its evolution can vary, and the carrier may present with spontaneous cure or severe manifestations. Data show that the lethality of this disease has been increasing progressively, reaching 10% to 98%, mainly in cases that are inadequately treated or not treated at all (ALVARENGA, 2010).

According to Werneck (2010), this disease affects approximately 65 countries, with an estimated incidence of

500,000 new cases and 59 deaths per year worldwide. In the Americas, Brazil is the country with the highest endemicity for VL, accounting for approximately 97% of all cases on this continent. The northeast region of Brazil accounts for 90% of notifications. In Brazil, the importance of visceral leishmaniasis lies not only in its high incidence and widespread distribution, but also in the possibility of assuming severe and lethal forms when associated with malnutrition and concomitant infections (REY, 2008).

The diagnosis of VL is based on clinical examinations and epidemiological analysis. Clinical diagnosis is usually made, which can be very complex because this disease has symptoms common to other pathologies, parasitological methods, based on visualization of the parasite, serological and immunological methods, such as the ELISA and RIFI tests, which are the most commonly used in the diagnosis of the disease in Brazil. The disease can progress rapidly, leading to cachexia and death within a few weeks or months, or it can become chronic. Although the changes caused by the parasite can, by themselves, determine the death of patients, it is often attributed to secondary infections (NEVES et. al., 2012).

Antimony-based medications, such as methylglucamine antimoniate, are used in Brazil as the first choice in the treatment of leishmaniasis. Methylglucamine antimoniate is especially effective in the treatment of cutaneous, mucocutaneous and visceral leishmaniasis. The medication causes rapid regression of the clinical and hematological manifestations of the disease, as well as sterilization of the parasite. Amphotericin B and its liposomal formulations, pentamidines and immunomodulators are used as alternative treatments (GONTIJO & MELO, 2004). There is a set of health promotion procedures, which are epidemiological surveillance actions, which constitute one of the components of the Visceral Leishmaniasis Control Program (PCLV) that aims to reduce fatality rates and the degree of morbidity through early diagnosis and treatment of human cases, as well as reducing the risk of transmission through control of the reservoir and vector population (MARCONDES & ROSSI, 2013).

One of the most important risk factors that deserves to be highlighted in the acquisition of VL is exposure to the insect vector. *Lutzomyia longipalpis* is a species that perpetuates itself in different biotopes. Therefore, vector control has been based on the use of insecticide directed at adult forms, knowing that the breeding sites of the species are little known (BRASIL, 2010).

The latest data from the Ministry of Health show that between 2006 and 2010, 18,168 cases were recorded in the country, with the Northeast region having the highest incidence of cases, accounting for 90% of the reported cases of this disease. According to data from the Notifiable Diseases Information System from DATASUS - Department of Information Technology of the Unified Health System, in Paraíba, between 2010 and 2013, 135 cases of visceral leishmaniasis were recorded, with the highest incidence being 2013, with

38 confirmed cases. In recent years in Brazil, the lethality of visceral leishmaniasis has been gradually increasing, rising from 3.6% in 1994 to 6.7% in 2003. In addition to all this, it is estimated that around 360 million people are exposed to the risk of infection worldwide (BARBOSA, 2013; OLIVEIRA, 2013).

This study aimed to assess the number of cases of American Visceral Leishmaniasis in Paraíba from 2007 to 2015, since this pathology is characterized as a serious public health problem and the results of this study can serve as a guideline for public health actions for prevention and health promotion. In view of everything that has been exposed, the need arose to better understand Visceral Leishmaniasis, mainly by assessing the epidemiological profile of Visceral Leishmaniasis in patients in Paraíba in recent years, since this is a pathology with high lethality and that can bring great risks and harm to the health of the population as a whole. It is important to highlight that the problem involved is to understand whether the components of the Visceral Leishmaniasis Control Program are being sufficient to minimize this problem over the years.

Methodology

This is a retrospective study with a quantitative approach, based on data taken from DATASUS, which is the Department of Information Technology of the Unified Health System and was created in 1991 with the creation of the National Health Foundation (Funasa), which controls and processes data related to health information. The research was conducted in Cajazeiras with data from DATASUS for this municipality.

The population for the study were all cases of Visceral Leishmaniasis confirmed in the municipality of Cajazeiras, PB. The sample was based on all cases of Visceral Leishmaniasis confirmed in the periods from 2007 to 2015. As the inclusion criterion, all reported cases of Visceral Leishmaniasis that were confirmed and processed in the Information System for Injury and Notification from 2007 to 2015 were computed, and cases that were not confirmed and that did not fit into the years studied were excluded. The analysis and interpretation of the data followed a quantitative context analysis procedure, where the data were tabulated in Excel and analyzed by evaluating the descriptive statistics of frequency and percentage.

Results and Discussion

The data were collected from the DATASUS database on epidemiology and morbidity, classified as diseases and conditions notifiable from 2007 onwards, and from the SINAN - Information System for Notifiable Conditions, where the information can be used to diagnose the occurrence of an event in a given population, providing support to explain the causes of conditions subject to compulsory notification. This is an important tool to assist in health planning.

Table 1 shows the number of cases of visceral leishmaniasis per year in Paraíba from 2007 to 2015. From the analysis of the results, it was noted that the number of cases of the disease in Paraíba fluctuates greatly, and in recent years the percentages of cases have reached high levels, such as in

2014, when there were 60 cases, and in 2015, when there were 45 cases. Demonstrating that there may have been failures in recent years, in conditions related to health promotion or even in actions aimed at disease prevention, since these data have a fundamental role in guiding health issues with the aim of correcting any failure in assistance in the case of health promotion and disease prevention.

Table 1: Number of cases of Visceral Leishmaniasis per Year, reported in Paraíba from 2007 to 2015.

ANO DA NOTIFICAÇÃO	Nº DE CASOS	Nº %
2007	25	25%
2008	41	41%
2009	21	21%
2010	30	30%
2011	43	43%
2012	43	%
2013	38	38%
2014	60	60%
2015	45	45%

Fonte: DATASUS.

According to Costa (2005) in his study, due to the epidemiology and insufficient knowledge about the various elements that make up the transmission chain of Visceral Leishmaniasis, strategies to control this endemic disease are still ineffective and are focused on early diagnosis and treatment of cases, reduction of the population of sandflies, elimination of reservoirs and health education activities. It is worth emphasizing that actions aimed at the diagnosis and treatment of cases and educational activities should be prioritized in all situations, so that the number of cases of the disease can be minimized.

Gontijo and Melo (2004) corroborate that the occurrence of the disease in a given area basically depends on the presence of a susceptible vector and an equally susceptible host/reservoir. The possibility that humans may in some cases be a source of infection may lead to an increase in the complexity of transmission of Visceral Leishmaniasis.

Several factors may influence the increase in the number of VL cases. In studies by Marcondes and Rossi (2013), it was shown that the increase in the occurrence of VL outbreaks and the geographic expansion of the disease can be explained by several factors, and in this context the environment plays an important role in the dynamics of disease transmission. Early and disorganized urbanization in the outskirts of cities with inadequate housing, lack of sanitary infrastructure, population agglomeration, presence of potential breeding sites for sand flies in backyards and presence of domestic animals in homes are some factors that favor the spread of the disease. In particular, there is evidence of reduced investment in health and education, and failures in disease control actions (BRASIL, 2010). The results presented suggest that over the period there was probably a reduction in measures aimed

at vector control and an increase in measures to control the reservoir. The data from this study demonstrate a progressive increase in the incidence of Visceral Leishmaniasis every year. However, if control measures do not have an impact, the epidemic could be extinguished by the progressive reduction of the susceptible population, determined by the occurrence of long-lasting immunity and the presence of asymptomatic infected individuals.

Final Considerations

The scenario of Visceral Leishmaniasis in Brazil is very complex, since this is a highly endemic disease in areas with favorable characteristics. From this perspective, it is important that efforts be concentrated on controlling the canine population, identifying infected animals, controlling vectors and eliminating risk factors.

It is important to understand that there is still a huge gap in knowledge about VL. Many challenges must be overcome in the fight against this disease, but emphasis must be placed on scientific and technological development and innovation in health. More studies are needed to formulate new drugs, therapeutic regimens and clinical management protocols, and for this, the survey of case numbers is important, since it will provide support for efforts to be made, especially in areas with a high prevalence of the disease. However, more than scientific production itself, a social commitment from everyone is necessary to prevent VL from definitively establishing itself as an irreparable problem in Brazilian daily life. In fact, new investigations and applied research must be valued and encouraged as important sources of information to support the VL Control Program in Brazil.

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