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ISSN:

PECET, Universidad de Antioquia
Sede de Investigacion Universitaria -SIU-
Calle 62 # 52 – 59, lab 632

First edition: August 23, 2022

Text correction: Sara Maria Robledo

Design and layout: Valeria Velez Wolff

Made in Colombia

Medellin, Colombia.

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Content

1. WELCOME TO THE WORLDLEISH7

Every four years, leishmaniacs from around the world gather in WorldLeish to discuss the latest advancements around these neglected tropical diseases and the seventh version was not an exception. In 2022, we had the participation of around 700 people, from 47 countries. Also, we had a great response from 536 students and professionals from around the world who sent us their abstracts to be part of the event as a poster or oral communications presentation and we are glad to say that we counted 195 oral presentations and 341 posters.

The experience and knowledge of the 210 speakers enriched the 44 Symposia, 8 Round Tables, 4 Special Meetings, 5 Plenary talks and 4 Successful stories that took place in those 6 days.

For Colombia and specifically the University of Antioquia, it was an honor to be the host of this Congress. And, for PECET, is a recognition for its almost 40 years of effort, research and hard work to treat leishmaniasis.

I would like to express my gratitude for your participation in this seventh version of the congress. Thanks to the knowledge and contributions, of all participants, it has been a complete success.

We know that it was not easy at all, however seeing all of you in Cartagena filled us with deep pride for the great challenge undertaken and the achievement reached.

May these events strengthen our "leishmaniac" spirit and recharge us to continue working in favor of this NTD.

Thank you very much.

With the expression of my admiration and respect.

Ivan Dario Vélez
Chair WorldLeish7

2. GENERAL SCHEDULE

MONDAY August 1st		Time	TUESDAY August 2nd	WEDNESDAY August 3rd	THURSDAY August 4th	FRIDAY 27 August 5th	Time	SATURDAY August 6th
		7:00 - 8:00	REGISTRATION	REGISTRATION	REGISTRATION	REGISTRATION		
		8:00 - 9:00	PLENARY TALK #1	PLENARY TALK #2	PLENARY TALK#3	PLENARY TALK #4	8:30 - 9:30	PLENARY TALK #5
		9:00 - 9:30	SUCCESSFUL STORY #1	SUCCESSFUL STORY #2	SUCCESSFUL STORY #3	SUCCESSFUL STORY #4	9.30 - 10:00	COFEE BREAK
		9:30 - 10:00	COFEE BREAK				10:00 - 11:30	SPECIAL MEETING #4
		10:00 - 11:30	SATELITE SYMPOSIUMS (sessions 1 - 5)	SATELITE SYMPOSIUMS (sessions 12-16)	SATELITE SYMPOSIUMS (sessions 23-27)	SATELITE SYMPOSIUMS (sessions 33 - 38)	11:30 - 12:00.	AWARDS
						SPECIAL MEETING #3		
		11:30 - 13:00	SATELITE SYMPOSIUMS (sessions 6 -11)	SATELITE SYMPOSIUMS (sessions 17 - 22)	SATELITE SYMPOSIUMS (sessions 28 - 44)	SATELITE SYMPOSIUMS (sessions 39 - 44)		
					SPECIAL MEETING #2			
		13:00 - 14:00	LUNCH	LUNCH	POSTER PRESENTATION Session 3	LUNCH	12:00 - 13:10	CLOSING LECTURE
14:00 - 19:00	REGISTRATION	14:00 - 15:30	SPECIAL MEETING #1	ROUND TABLE (1 - 4)	LUNCH/ FREE AFTERNOON	ROUND TABLE (5 - 8)	13:10 - 13:30	CLOSING REMARKS
		15:30 - 16:30	ORAL COMMUNICATIONS (sessions 1 - 7)	ORAL COMMUNICATIONS (sessions 15 - 21)		ORAL COMMUNICATIONS (sessions 29 - 35)		
		16: 30 - 17:30	POSTER PRESENTATION Session 1	POSTER PRESENTATION Session 2		POSTER PRESENTATION Session 4		
17:30 - 18.00	OPENING SESSION	17:30 - 18:00	COFEE BREAK			COFEE BREAK		
18:00 - 19:00	INAUGURAL LECTURE	18:00 - 19:00	ORAL COMMUNICATIONS (sessions 8 - 14)	ORAL COMMUNICATIONS (sessions 22 - 28)		ORAL COMMUNICATIONS (sessions 36 - 41)		
19:00 - 20:30	WELCOME RECEPTION							

3. SYMPOSIUMS

S8-02: ANTI-SALIVA ANTIBODY PRODUCTION IN NAIVE DOGS EXPOSED TO UNINFECTED *Lutzomyia longipalpis* BITES

Claudia Ida Brodskyn[1] Manuela da Silva Solcà[2], Yuri de Jesus Silva[2], Stefane C. S. Jesus[1], Amanda M. R. M. Coelho[2], Bruna Macedo Leite[1], Shaden Kamhawi[3], Jesus Valenzuela[3], Deborah Fraga[1,2]

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Canine visceral leishmaniasis (CVL) is caused by *Leishmania infantum* and transmitted to dogs and humans by sandflies. In Brazil, *Lutzomyia longipalpis* is the primary vector of this disease. When feeding, infected sandflies inoculate metacyclic promastigote forms of *Leishmania* and their saliva and other components into the hosts. Anti-saliva antibodies were associated with increased visceral leishmaniasis severity in naturally infected dogs. Although these compounds introduced by the vector favor the establishment of *Leishmania*, the early events that occur at the bite site are not fully understood. A better understanding of these initial events is essential to the development of better therapeutics and prophylactic strategies. Studies have demonstrated that sandfly saliva promotes *Leishmania* infection. *Leishmania major* co-injected with *Lu. longipalpis* or *Phlebotomus papatasi* saliva resulted in more severe disease manifestations in mice, as reflected by larger lesions compared to animals that received only parasites. This initial observation was further supported by additional studies demonstrating the enhanced infectivity of *L. major* when co-inoculated with saliva from the sandfly *Lu. longipalpis*. Apart from antihemostatic properties, sand fly saliva promotes chemotactic activity in a variety of immune cells, such as macrophages, neutrophils, dendritic cells and lymphocytes. In addition, many other cell types, including monocytes, interact with sandfly saliva, thereby modifying inflammatory processes at

the blood feeding site. It has been proposed that the resulting effects on the host immune system contribute to increased parasite loads in mice exposed to sandfly bites compared to animals infected through needle injection7. Moreover, it has also been demonstrated that other vector-derived factors can additionally contribute to *Leishmania* infection, such as the microbiota of the vector, exosomes and the promastigote secretory gel. In recent years, our group has contributed compelling data linking the differential production of lipid mediators to inflammatory factors involved in the establishment of infection. Specific levels of lipid mediators, mainly the eicosanoids leukotriene B4 (LTB4) and prostaglandin E2 (PGE2), are important components of the inflammatory response to, and outcome of infection by intracellular pathogens. Previous in vitro studies have demonstrated the role of LTB4 as a factor that participates in parasite killing, while PGE2 was shown to favor *Leishmania* survival. More recently, lipid mediators were identified as biomarkers of cutaneous and visceral leishmaniasis severity. Anti-sandfly saliva antibodies could also represent an essential epidemiological tool to assess vector exposure in endemic areas. LJM11 and LJM17 recombinant proteins are present in the vector's saliva and have already been used for this purpose. Our goal was to follow up anti-saliva antibodies (anti-LJM11 and anti-LJM17) production in naïve dogs experimentally exposed to *Lu. longipalpis* sandflies. We also assessed the persistence of anti-saliva antibodies titers for one year, and after re-exposure to the sandfly vectors. Blood samples from the dogs were collected weekly to assess the production of anti-LJM11 and anti-LJM17 IgG by ELISA. Six healthy naïve dogs were exposed weekly to 35 *Lu. longipalpis* female sandflies until at least 80% of the female were fed. Dogs were exposed to the sandflies until anti-saliva antibody production reached a plateau and remained elevated for at least three consecutive weeks. Afterward, we ceased sandflies exposures; we followed the dogs weekly until the animals tested negative for anti-saliva antibodies for three consecutive weeks. Then, we re-exposed the dogs to the sandflies and evaluated the time-period it took for the animals to resume anti-saliva antibody production. The Reactivity Index (RI) was calculated by dividing the optical density by the cut-off point obtained in each ELISA plate to compare antibody production. Soon after the first exposures, there was an immediate increase in the production of anti-saliva antibodies (between the first and the third week).

On the twenty-eighth day after the first exposure (with a median of 10.5 days), all six animals showed detectable anti-saliva IgG titers. Dogs were exposed to sandflies for six to nine weeks (with a median of 52.5 days). After the initial rising of anti-saliva antibody production post-exposure, anti-saliva antibody titers fluctuated, remaining detectable for over a year. We found a statistically significant difference comparing anti-saliva antibodies titers before exposure and five weeks after the exposure ($p<0,05$). Despite the variations in titration, four dogs remained positive for 41 weeks (290 days) on average, two animals are still positive after 460 days. After the first week of re-exposure, dogs demonstrated antibody titers rising significantly. Throughout the evaluation, there was a considerable variation in antibody production among the six animals, especially concerning the time of seroconversion, time to reach the plateau, and titer decay. Although we observed differences among the animals, we can detect a similar pattern during the follow-up. Currently, studies evaluating the cellular immune response of these animals are being carried out. We have collected peripheral blood mononuclear cells (PBMC) in different time points after exposure and re-exposure and we intend to stimulate these cells with salivary gland homogenate and measure the cytokines production with LUMINEX specific canine kit. Moreover, we will measure canine serum cytokines produced during the follow-up after exposure and re-exposure to sand flies. This experimental approach allows us to better understand the early events among vector and host after exposure to sand flies and to delineate better strategies to control infection establishment.

Keywords SANDFLY; SALIVA; ANTIBODIES; RESERVOIR

Financing PROEP IGM-FIOCRUZ N°01/2020 and Fulbright Junior Member Faculty Award

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