Dengue infection occurs, without doubt, at high incidence and prevalence rates in endemic tropical areas, including Mexico. Despite primary prevention programs and vector control, the infection is hard to be eradicated and continues to claim lives every year. Yet, different strategies are used to reduce the incidence and mortality.

Another big issue that physicians from the emergency room are facing, are infections that often simulate dengue symptoms, primarily through the bacterial infection caused by Leptospira, whose rate has increased in some regions. Unfortunately, there is no specific diagnosis done in this matter and consequently, no appropriate subsequent treatment has been introduced to decrease the rate of mortality and lethality in this region.

Current medical practice, based on medicine stocks, rather than evidence caused that many doctors do not sufficiently regulate nor standardize practices such as “prophylactic” use of antimicrobials in all patients with dengue or suspected dengue. In such situation it is difficult to avoid failure to diagnose leptospirosis symptoms properly or let it pass unnoticed. One has to remember that patient may not have an accurate serological or microbiological diagnosis,
which can result from iatrogenic allergic reactions, bacterial resistance, use inappropriate and exaggerated antimicrobials, etc.

Although the clinical pictures are similar and can often be confused, there are some key points that the doctor should know and understand in his first contact with the patient to skillfully discern the difference. Coexistence cases of dengue infection and Leptospira are virtually not possible to be differentiated. Even though, its existence has not been recorded in the literature, it rarely occurs.

Below there is a series of comparisons between the two infections listed. Both clinical and biochemical data has been provided for this cause.

Currently, the primary care physician should have the clinical acumen to suspect a possible dengue and differentiate leptospirosis hidden symptoms, for which there are some basics to consider. It is because the clinical picture is very similar in both cases. However in case of Leptospira there are some key symptoms that may arise from the clinical review. These are: data conjunctival hemorrhage, muscle involvement manifested as myalgia and more exaggerated toward the pelvic limbs cramps and jaundice. Typically, the biochemical features of dengue, show hemocoagulation, leucopenia, thrombocytopenia, lymphocytosis, in some cases, the onset of symptoms, which usually indicate free viruses. Yet, in cases of leptospirosis, leukocytosis combined with thrombocytopenia, there is a suspicion of the entity, which is related to a bacterial symptoms. In viruses, there is usually mild transaminasemia (rarely more than two or three times the normal value), rarely jaundice or hiperbilirubinemia, hypoalbuminemia, rarely elevated nitrogenous can be found (reserved for severe cases, or severe hypoperfusion shock) and moves towards gravity are gradual, unless the patient undergoes medical review late. Leptospira infection, in contrast, is often initially depicted with a bulky box and severe hepatic involvement, which in severe cases (Weil’s disease) are more apparent, with transaminasemia severe hiperbilirubinemia and acute kidney injury data with elevation of data nitrogenous and respiratory or cardiac failure (11,17,18). Clinical hospitals often use rapid diagnostic reagents, which help clarify the diagnostic doubt. However, in many rural hospital settings there is a deficiency of resources, which may discern between an entity or other, coupled with basic data clinical laboratory. The problem may be resolved by a study done to measure serum procalcitonine, which normally increases in bacterial or fungal infections, but not in viral conditions.

Due to the above factors, it was sometimes decided to start prophylactic or preventive chemotherapy. However it has been shown that those measures have not had a significant impact on the resolution of the pictures and sometimes carry adverse gastrointestinal or allergic effects. Similarly, in identified endemic areas and where there is need for humans exposed to these areas, prophylactic doses have been administered, yet with mixed results. For prophylaxis it is recommended to use primarily Doxycycline 200mg per week. There is no increase in gastrointestinal symptoms, mainly nausea and vomiting, and no greater benefit on the incidence, seroconversion or resolution of infection is demonstrated (8,9,10).

In our environment, we have chosen to administer parenteral crystalline sodium based penicillin or cephalosporin. However, there are no studies done to support this practice but only to recommend initiation of empirical antibiotic therapy in patients with high suspicion of leptospirosis demonstrated in pictures, which was initially classified as dengue. In this case parameters of high clinical and biochemical suspicion of both entities were advised to be considered. They are summarized in table 1 and 2.

While there are pictures of severe dengue with multiorgan involvement that cannot be distinguished clinically or biochemically as leptospirosis, and to keep such critically ill patients is justifiable treating them with empirical antibiotic therapy, then in mild cases, which only show dengue fever or severe dengue, it is not (1,2,3,4,5,6,7).

Finally, it needs to be taken into consideration that these infections are associated with atypical paintings, which have rarely been reported in the world literature. Medical contrast images of dengue virus infection with leukocytosis (some series reported up 4.4%), and worse, coexistence of both infections, dengue, leptospirosis but in one patient at a time, making it extremely difficult to differentiate and treat them separately, especially if it comes to symptoms or mild anicteric leptospirosis, indicating these rare or unusual cases. Antibiotics were used to prevent progression to multiorgan failure and death. Current patterns of prophylaxis in endemic and high incidence of leptospirosis are based on oral doxycycline in weekly doses, and treatment schedules are varied, from use of crystalline sodium penicillin aminopenicillin, cephalosporins 3rd generation, doxycycline, macrolides, quinolones, etc, lasting 7-10 days (12, 13, 14, 15, 16).

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**TAB. 1. EPIDEMIOLOGICAL AND CLINICAL DIFFERENCES**

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<td>Dermal or mucosal contact with sub-stances or contaminated by the urine of infected species other foods.</td>
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<td>Clinical picture</td>
<td>Acute febrile syndrome accompanied by headache, retro-orbital pain, muscle aches, rash.</td>
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<td>Diagnosis</td>
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<td>Treatment</td>
<td>Advanced life support and critical care (severe).</td>
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**TAB. 2. DIFFERENCES AND RECOMMENDATIONS**

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**BIBLIOGRAPHY**