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Case Report

Dengue Complicated with Sacroiliitis in a Pregnant Woman

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ABSTRACT

Dengue fever is one of the most common vector-born viral infections in Sri Lanka. During the epidemic, there are spectrums of rare presentations were reported throughout the Sri Lanka. However, dengue complicated pregnancy is the challenging for clinician; moreover it complicated with sacroiliitis is more challenging task for diagnosis. As far as our knowledge this is the first reported case of dengue complicated with sacroiliitis in a pregnant woman.

Key words: Dengue complicated with sacroiliitis, dengue and sacroiliitis.

INTRODUCTION

Today dengue grades as a most significant mosquito born viral disease among the world. It is primarily more prevalent in tropical and subtropical parts of the world. It is predictable that 50-100 millions of dengue infection and 200,000-500,000 cases of dengue haemorrhagic fever (DHF) per year throughout the world; and the mortality rate of DHF/dengue shock syndrome (DSS) is around 5%. [1] The spectrum of clinical manifestations of dengue fever have been identified, which range from asymptomatic, or mild, flu-like symptoms to plasma leakage, joints pain, thrombocytopenia, bleeding, and/or severe shock. In clinically apparent dengue infection symptoms develop after an incubation period of 4-7 days with an abrupt onset of fevers often accompanied by headache with severe retro-orbital pain. [2] Some patients develop severe arthralgia, explaining the historical name of break-bone fever. Dengue virus has four distinct serotypes (DEN1–DEN4), and infection from one serotype confers lifelong immunity to that serotype alone. It has been observed in several studies that sequential or secondary dengue virus infections are more likely to produce severe disease. Even after uncomplicated dengue recovery may be complicated by fatigue and depression. Dengue causing spectrum of rare presentations including, myocarditis, appendicitis, encephalopathy, encephalitis, hepatitis, epididymo-orchitis, and life threatening hemophagocytic syndrome. [3-5] Acute dengue causing symmetrical type of arthritis is common clinical findings. However, joints pain persists as rheumatoid like arthritis is very rare and it was reported by *Umakanth M* in 2018. However, dengue virus is not considered an arthritogenic virus. Arthritogenic viruses include rubella virus, hepatitis B and C, parvovirus, and alphaviruses such as chikungunya virus. [6]

We reported a case of healthy pregnant women, presented with right-sided sacroiliitis following dengue fever. The sacroiliac joint (SIJ) is designed by the articular surfaces between the sacral and iliac bones. The solidity of the joint is sustained by the union of the two bones, along with numerous muscles and ligaments. Radiography is the most widely accepted imaging method for diagnosing sacroiliitis, because it is relatively inexpensive, readily available, and, when it

yields positive findings. As far as our knowledge this is the first reported case that link with dengue complicated with sacroiliitis in a pregnant woman.

CASE HISTORY

A 31-year -old pregnant lady with period of amenorrhea was 28 weeks, developed fever, joints pain, and headache for 4 days duration. She had right sided back pain for last 9 days, she thought that it was the consequences of her pregnancy. Fever was an intermittent, high grade and associated with chills and rigors. Second day of her admission, she complained of right sided severe back pain especially over the buttock region, and it worse with movement. This pain did not radiate anywhere. Third day of her admission she did not have fever, but complained more severe backache, which very much restrict her movement. She was diagnosed as dengue fever with the evidence of positive IgM-dengue antibody. On examination she was mildly pale, no evidence of uveitis, or oral ulceration, or skin lesions. Her cardiovascular system, respiratory system, and abdominal examinations were normal. There was tenderness over her sacroiliac joint. Rests of the blood tests were highlighted in the Table 1. Her blood serology for brucella, salmonella, infectious mononucleosis, cytomegalovirus, and HIV were negative.

Her X-ray, sacroiliac joint (Figure 1) revealed evidence of right sided sacroiliitis (joint space widening and reactive bone changes). Seventh day of her admission, she was discharged with painkiller. One week after discharge, she again consulted with the history of severe back pain, but she denied any fever. We started small dose of steroid with painkillers. Nearly, eight weeks later, her back pain gets better and her inflammatory markers become normal.

Table 1: Haematological and biochemical investigations

Blood test	4th day	5th day	6th day	7th day	8th day	9th day	10th day
White blood count($X10^9$/l)	4	3.5	2	3	4	6	6.5
Platelets ($X10^9$/l)	22	34	48	56	96	105	130
Packed Cell Volume (PCV)	37	38	38	39	39	38	38
ESR (mm/h)	78	110	110		75	70	
CRP	6		10		11		08
Blood urea (mg/dl)	23			24l			
SGOT(U/L)	45			48			
SGPT(U/L)	40			41			
INR	1.3			1.2			
Serum electrolyte	normal	normal	normal	normal	normal	normal	normal
Serum IgM-antibodies			+				
Serum IgG-antibodies			+				
HLA B27			Negative				
Rheumatoid factor			Negative				
ANA			Negative				
Blood culture			Negative				

Figure 1 Right sacroiliitis joint revealed widening joint space with reactive bone changes

DISCUSSION

Dengue infections vary in severity, ranging from influenza-like self-limiting illness to life-threatening dengue hemorrhagic fever (DHF) and dengue shock syndrome (DSS) which, if left untreated, are associated with mortality as high as 20%. Dengue viral infection is a well-recognized cause of acute arthralgia and arthritis. Worldwide, epidemics of arbovirus-related arthritis are increasingly recognized. A wide spectrum of acute viral infection can manifest with arthritis emphasizing the

importance of a thorough history, in particular of travel, when assessing patients presenting with acute arthritis. Dengue complicated with sacroiliitis is a one of the rare presentation. This 31-year -old pregnant lady, had back pain followed by fever, initially we thought that back pain part of her pregnancy, but subsequent blood report revealed that dengue IgM-antibody is positive. The radiological and clinical diagnosis fit with right sided sacroiliitis. A similar case was reported in Sri Lanka as well, [7] however dengue complicated with sacroiliitis in a pregnant woman is the first time in Sri Lanka. In this clinical scenario, as much as possible we excluded possibility of spondyloarthropathy.

As the pregnancy is the vulnerable to get infection, we thought that sacroiliitis could be due to infection such as tuberculosis or brucellosis or staphylococci or group B Streptococcus or pseudomonas aeruginosa. [8-10] In our patient, negative serology, Mantoux test and blood culture confidently excluded all possible infective origin. However, very rarely salmonella infection was identified as a culprit. [11] Infectious sacroiliitis is rare, it is happening only 1 to 2 percent among septic arthritis. [12] As her age was 31-year-old, we thought it could be due to early feature of spondyloarthropathies including, ankylosing spondylitis, psoriatic arthritis, reactive arthritis, inflammatory bowel disease-related arthritis, and undifferentiated spondyloarthropathies. [13,14] However, unilateral presentation and negative HLA B27 strongly against it. She also denied enthesitis, uveitis, conjunctivitis, urethritis, and altered bowel habits.

CONCLUSION

The diagnosis of sacroiliac joints pathology during pregnancy period is challenging. However, dengue complicated with sacroiliitis is one of the rare presentations. It mainly depends on exclusion criteria rather than straight forward diagnosis. We hypothesized that sacroiliitis could be due to direct viral infection, or, immune complex formation or deposition in the joint tissue, or immune dysregulation. Management point of view, rather than searching for viral pathogenesis, sensible way to exclude the septic arthritis is a mainstay of the treatment.

Consent to participate

Consent was taken from the patient

Consent for publication

Written informed consent was obtained from the patients for publication of this case report

Availability of data and material

All data gathered during this study are included in this published article.

Competing interests

The author declares that no competing interests.

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