DOI: 10.7860/JCDR/2026/85389.24260

Case Report

Paediatrics Section

An Atypical Presentation of Congenital Syphilis with Pseudoparalysis and Nephrotic Syndrome in a 45-day-old Infant: A Case Report

KSHITIJ SHARMA[1], MG RAVANAGOMAGAN[2]

ABSTRACT

Congenital syphilis is a preventable infection transmitted from mother to foetus through the placenta by Treponema pallidum and continues to contribute to considerable neonatal illness and death. The disease can affect multiple organs, including the skin, bones, liver, kidneys, and central nervous system, and may present with diverse and unusual clinical features. Prompt identification is crucial, as delayed diagnosis can result in serious complications even when appropriate treatment is given. A 45-day-old male infant presented with reduced limb movements, irritability, and fever. Examination revealed hepatosplenomegaly, desquamation of palms and soles, and radiographic findings including metaphyseal destruction (Wimberger sign) and 'celery-stalk' appearance of the distal femur. The infant subsequently developed congenital nephrotic syndrome. Although the mother's antenatal Venereal Disease Research Laboratory (VDRL) screening was reported negative, the combination of clinical, radiological, and serological findings established the diagnosis of congenital syphilis. Despite prompt treatment with crystalline penicillin and supportive therapy, the infant succumbed to sepsis during the third week of illness. This case highlights an unusual presentation of congenital syphilis masquerading as neuromuscular weakness, later complicated by nephrosis, emphasising the importance of high clinical suspicion and multidisciplinary evaluation in atypical neonatal presentations.

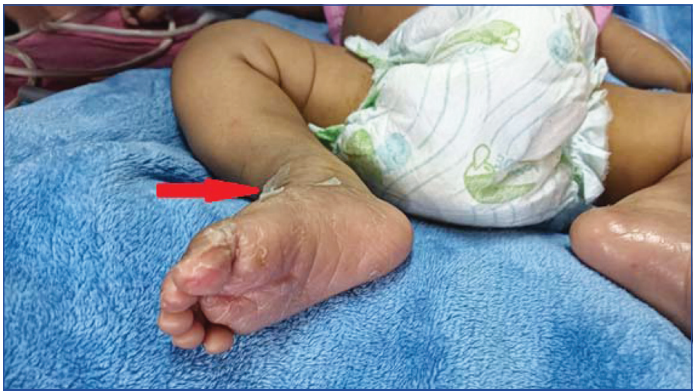
Keywords: Disease transmission, Neurosyphilis, Osteochondritis, Periostitis, Treponema pallidum, Vertical transmission

CASE REPORT

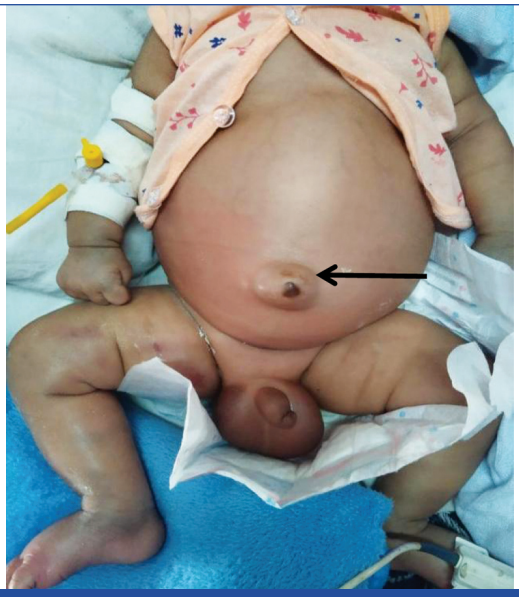
A 45-day-old male infant was brought to the Department of Paediatrics with the chief complaints of reduced movements of all four limbs for one week and low-grade fever for five days. He was the second child of a non-consanguineous marriage, born at term by normal vaginal delivery with a birth weight of 2.5 kg (50th percentile for gestational age) (appropriate for gestational age). The antenatal period was uneventful, and the mother's antenatal VDRL screening was reported as non-reactive. There was no relevant family history of neurological, renal, or infectious illness. The infant had been apparently well until 38 days of life, when the parents noticed increasing irritability and reluctance to move the limbs, particularly on handling, suggestive of pain-related immobility. This was associated with constipation for one week and intermittent low-grade fever for five days. There was no history of seizures, trauma, poor feeding, vomiting, or respiratory symptoms. Honey ingestion on the 15th day of life was reported as a traditional practice.

On examination, the infant was alert with an irritable cry. Vital parameters were stable: Temperature: 37.8°C, heart rate 140/min, respiratory rate 44/min, and blood pressure 88/60 mmHg (50-90th percentile). Diffuse plantar desquamation involving approximately 60-70% of the plantar surface bilaterally was noted, predominantly over the heel and mid-plantar regions, without ulceration or active discharge. Similar desquamation was noted over the palmar surfaces bilaterally on clinical examination [Table/Fig-1]. The liver was palpable 4 cm below the right costal margin and the spleen 2 cm below the left costal margin. A reducible umbilical hernia was present without signs of obstruction [Table/Fig-2]. Neurological examination revealed generalised hypotonia with muscle power of 2/5 in the upper limbs and 3/5 in the lower limbs. Deep tendon reflexes were not elicitable. Cranial nerve examination was normal. Initial laboratory evaluation showed leukocytosis (16300 cells/cumm) with elevated inflammatory markers {raised C-Reactive Protein (CRP)- 52.3 mg/L} and organomegaly (hepatomegaly and splenomegaly), raising suspicion of sepsis. However, the infant was feeding well, not lethargic, and no focus of infection was identified, blood culture reports were inconclusive. Although the infant's serum vitamin B_{12} level was low (84 pg/mL), maternal vitamin B_{12} level was normal (294 pg/mL). Haemoglobin was 8.9 g/dL with a normal Mean Corpuscular Volume (MCV: 88 fL). Peripheral smear did not show macro-ovalocytes or hypersegmented neutrophils. There was no evidence of pancytopenia. These findings ruled out megaloblastic anaemia. Nerve conduction studies revealed non-stimulable nerves, suggestive of polyradiculopathy.

Differential diagnoses considered included sepsis, septic arthritis, congenital Guillain-Barré syndrome, infant botulism, peripheral neuropathy secondary to vitamin B_{12} deficiency, and myopathy. These were ruled out based on preserved sensorium, absence of bulbar involvement, normal joint examination, lack of progressive



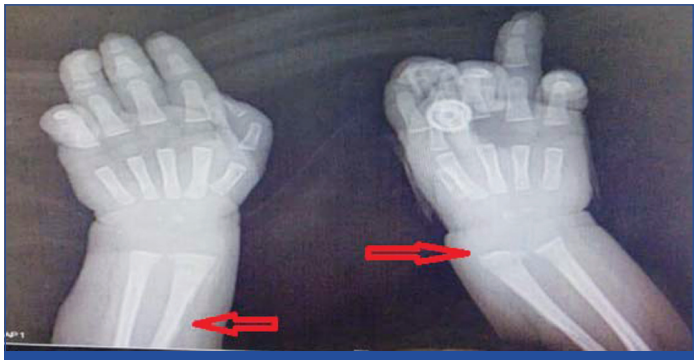
[Table/Fig-1]: Desquamation over palms and soles noted on day 1 of admission (day 45 of life) in the infant with congenital syphilis.



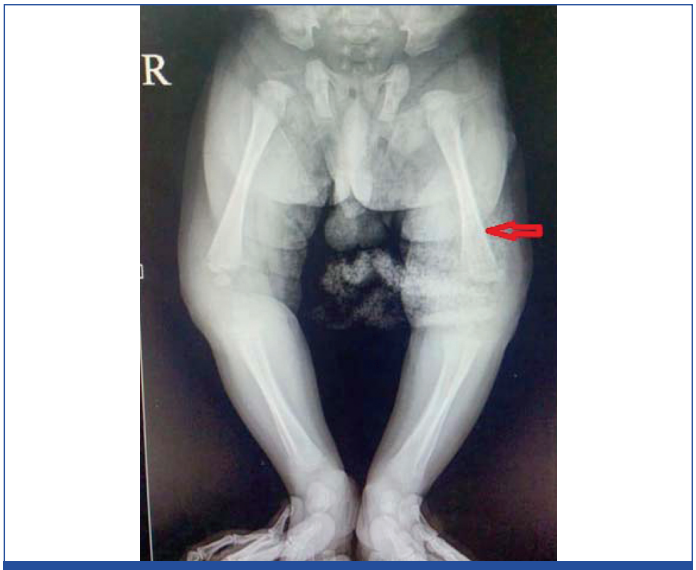
[Table/Fig-2]: Clinical photograph showing a prominent, reducible umbilical hernia with protrusion of the umbilical region during rest, without signs of obstruction.

paralysis, absence of haematological features of B_{12} deficiency, and characteristic radiological findings. A skeletal survey performed to evaluate for local pathology revealed metaphyseal destruction involving wrist, knee, and ankle joints (Wimberger sign), periosteal reaction with a "celery-stalk" appearance of the distal femur, sutural widening, and frontal bossing [Table/Fig-3-5]. These findings raised strong suspicion of congenital infection. Infant serology showed a reactive VDRL with a titre of 1:256. Repeat maternal serology performed postpartum showed a reactive VDRL with a titre of 1:8. The infant titre being more than fourfold higher than the maternal titre confirmed the diagnosis of congenital syphilis. Treponemal IgM antibodies were positive. Cerebrospinal fluid analysis could not be performed due to rapid clinical deterioration. A diagnosis of congenital syphilis presenting as Parrot's pseudoparalysis was made. Despite abnormal nerve conduction studies, the limb immobility was attributed to painful osteochondritis rather than primary neuropathy.

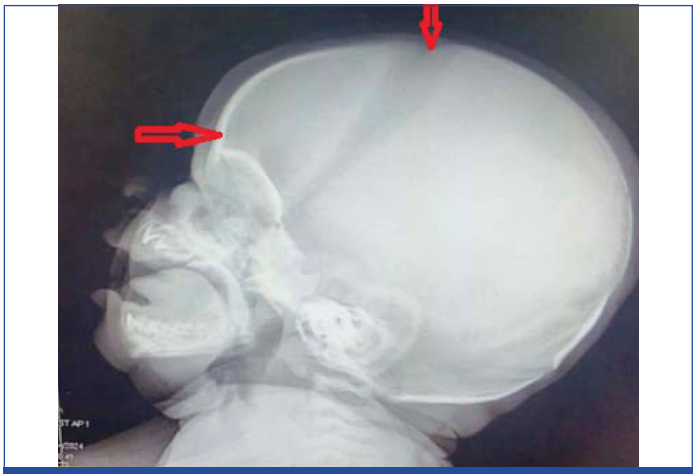
The infant was started on intravenous crystalline penicillin G at a dose of 50,000 IU/kg/dose every 12 hours for 10 days, along with intramuscular cyanocobalamin at a dose of 50 µg/kg/day once daily and supportive care. During the second week of hospitalisation, the infant developed bilateral pedal oedema progressing to anasarca over 3-4 days [Table/Fig-6]. Urinalysis revealed heavy proteinuria, and serum albumin was 1.5 g/dL, confirming nephrotic syndrome. Further nephrotic evaluation could not be completed due to worsening clinical condition. Despite aggressive supportive management, human albumin 20% was administered at a dose of 1 g/kg intravenously over 3-4 hours on two occasions. Intravenous furosemide was given at 1 mg/kg/dose following albumin infusion. Broad-spectrum intravenous antibiotics (meropenem 20 mg/kg/dose every eight hours and vancomycin 15 mg/kg/dose every six hours) were initiated for suspected sepsis and continued for seven days.



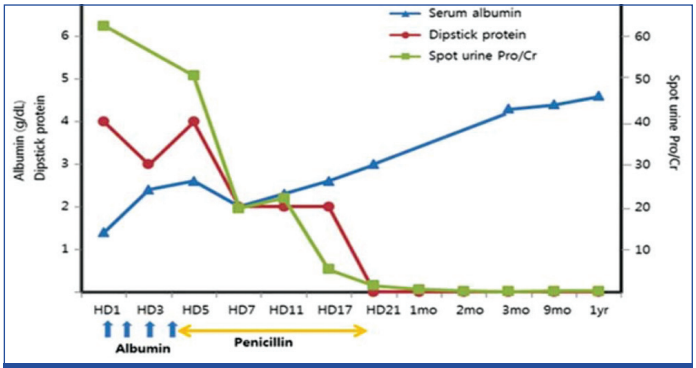
[Table/Fig-3]: Skeletal survey performed on day 2 of admission showing metaphyseal destruction involving wrist, knee joints consistent with Wimberger sign.



[Table/Fig-4]: Radiograph of the left distal femur taken on day 2 of admission demonstrating classical "celery-stalk" metaphyseal appearance suggestive of congenital syphilis.



[Table/Fig-5]: Skull radiograph obtained on day 2 of admission showing sutural widening and frontal bossing.



[Table/Fig-6]: Clinical course of nephrotic syndrome observed during hospitalisation. The graph depicts the onset of pedal oedema on day 10 of admission (day 55 of life) progressing to anasarca over the next 3-4 days, with corresponding fall in serum albumin to 1.5 g/dL, following initiation of penicillin therapy.

The infant developed sepsis. The clinical condition deteriorated, and the infant succumbed during the third week of illness.

DISCUSSION

This case illustrates the protean manifestations of congenital syphilis and emphasises that it can mimic a wide range of neonatal disorders, including neuromuscular and renal diseases. Transplacental transmission of Treponema pallidum from an infected mother usually results in congenital syphilis, and the timing of fetal exposure along with the maternal stage of disease determines the severity of infection. Although antenatal VDRL screening is widely practiced, false-negative results may occur during early maternal

infection, late seroconversion, or due to the prozone phenomenon, resulting in missed opportunities for prevention [1].

The infant in this report presented with pseudoparalysis, a rare but recognised manifestation of congenital syphilis. Pseudoparalysis (Parrot's pseudoparalysis) arises from painful periostitis or osteochondritis leading to limb immobility without true neurological deficit. Such infants may initially be misdiagnosed with neuromuscular weakness or neuropathy, delaying appropriate therapy. In this case, the radiographic findings - particularly metaphyseal destruction (Wimberger sign) and the "celery-stalk" appearance of the femur - were critical in establishing the diagnosis [2]. Similar to the report by Kim YH et al., our patient developed nephrotic syndrome in the second week of illness despite appropriate antibiotic therapy, underscoring that renal pathology may persist even after bacterial eradication [3]. Other published case reports have described infants presenting with musculoskeletal manifestations of congenital syphilis where radiological findings played a pivotal diagnostic role, particularly when maternal screening was negative [4].

Renal involvement in congenital syphilis has been documented over the years. Bhorade MS and Chawla LS in 2004 described immune-complex–mediated renal injury in congenital syphilis [5]. Wang C et al., in 2023 reported early congenital syphilis with nephropathy in a retrospective cohort [6]. Sankaran D et al., highlighted that congenital syphilis continues to show diverse multisystem involvement and may present with atypical skeletal or systemic manifestations in early infancy, often leading to delayed diagnosis despite routine antenatal screening [7]. Salomè S et al., emphasised that failures in repeat maternal testing and gaps in antenatal follow-up remain key contributors to ongoing cases of congenital syphilis, underscoring the need for high clinical suspicion even when initial screening is negative [8]. Toledano GM de ON et al., in 2021 further highlighted congenital nephrotic syndrome secondary to syphilis [9]. In larger paediatric observations, Garcia LN et al., in 2021 demonstrated multisystem involvement including skeletal manifestations [10], while Tascón-Barona A et al., in 2024 described a preterm newborn with metaphysitis visible on long-bone radiographs, highlighting that skeletal changes can be present even without overt clinical symptoms [11]. Miranda IPC et al., in 2025 reported a rare case of early congenital syphilis associated with femur agenesis, underscoring the potential for profound skeletal anomalies [12]. In addition, Mohora R et al., in 2025 provided comprehensive clinical and serological observations, reinforcing the value of repeat testing and long-term follow-up [13]. These reports collectively substantiate that congenital syphilis continues to present with varied multisystem manifestations, warranting high clinical suspicion even when antenatal screening is non-reactive.

This case also highlights that a negative maternal screening test does not exclude congenital syphilis. As emphasised by Stafford IA et al., a high index of clinical suspicion and repeat serological testing are warranted when the neonate presents with suggestive features [1]. Radiological evaluation, particularly long-bone X-rays, remains an invaluable diagnostic tool when laboratory results are inconclusive. Early initiation of penicillin therapy remains the cornerstone of management and significantly reduces morbidity and mortality when administered promptly. However, in cases complicated by multiorgan involvement such as nephrosis and sepsis, prognosis remains guarded even with adequate treatment. Multidisciplinary care involving neonatology, infectious disease, and radiology teams is essential for optimal outcomes.

CONCLUSION(S)

Congenital syphilis remains a diagnostic challenge due to its wide spectrum of clinical presentations. This case emphasises that infants presenting with unexplained neuromuscular weakness or renal involvement should be evaluated for congenital syphilis, even in the setting of a negative maternal screening history. Early radiographic and serological evaluation facilitates prompt diagnosis and management.

Acknowledgement

The authors acknowledge the contributions of the Departments of Radiology, Paediatric Neurology, and Dermatology & Venereology at Sree Balaji Medical College and Hospital for their support in the diagnosis and management of this case.

REFERENCES

[1] Stafford IA, Workowski KA, Bachmann LH. Syphilis complicating pregnancy and congenital syphilis. N Engl J Med. 2024;390(3):242-53.
[2] Shahrook S, Sapkal GN, Poojary A. Parrot's pseudoparalysis: A forgotten manifestation of congenital syphilis. J Clin Diagn Res. 2017;11(9):TD01-TD02.
[3] Kim YH, Song JH, Kim CJ, Yang EM. Congenital syphilis presenting with only nephrotic syndrome: Reemergence of a forgotten disease. J Korean Med Sci. 2017;32(8):1374-76.
[4] Chawla D, Agarwal R, Deorari AK, Paul VK. Skeletal manifestations of congenital syphilis: Revisiting the radiological clues. Indian J Pediatr. 2008;75(3):271-73.
[5] Bhorade MS, Chawla LS. Renal manifestations of congenital syphilis: Case report and review of literature. Pediatr Nephrol. 2004;19(10):1162-65.
[6] Wang C, Lun W, Pang L. Clinical characteristics of infants hospitalized with early congenital syphilitic nephropathy: A single-center retrospective cross-sectional study in China. BMC Pediatr. 2023;23(1):442. Doi: 10.1186/s12887-023-04250-4.
[7] Sankaran D, Lakshminrusimha S, Guillet R. Congenital syphilis: An illustrative review with emphasis on current epidemiology and clinical spectrum. Children (Basel). 2023;10(8):1310.
[8] Salomè S, Cambriglia MD, Montesano G, Capasso L, Raimondi F. Congenital syphilis: A re-emerging but preventable infection. Pathogens. 2024;13(6):481. Doi: 10.3390/pathogens13060481.
[9] Toledano GM de ON, Cardoso CO. Congenital nephrotic syndrome due to congenital syphilis: A case report. Electron J Gen Med.2021;18(2):em28.
[10] Garcia LN, Destito Solján A, Moroni S, Falk N, Gonzalez N, Moscatelli G, Ballering G, García Bournissen F, Altcheh JM. Congenital syphilis in Argentina: Experience in a pediatric hospital. PLoS Negl Trop Dis. 2021;15(1):e0009010. Doi: 10.1371/journal.pntd.0009010. PMID: 33406082; PMCID: PMC7815155.
[11] Tascón-Barona A, Vallejo-Prieto J, López-Gutiérrez J, Martínez-Pérez A, Gómez-Ruiz C. Bone abnormalities in congenital syphilis: A case report. Radiol Case Rep. 2024;19(12):5654-59.
[12] Miranda IPC, Nascimento MVB, Sousa da Costa BDP, Almeida RAS, Ferreira MLP. Early congenital syphilis and femur agenesis: A case report. BMC Pediatr. 2025;25(1):60.
[13] Mohora R, Diaconu A, Stoicescu S, Cristea O. A comprehensive congenital syphilis case report with evidence-based insights into current practices. J Med Life. 2025;18(4):324-31.

PARTICULARS OF CONTRIBUTORS:
1. Junior Resident, Department of Paediatrics, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu, India.
2. Associate Professor, Department of Paediatrics, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:
MG Ravanagomagan,
G-4, R Block, Sree Balaji Medical College and Hospital (SBMCH),
Chromepet, Chennai-600044, Tamil Nadu, India.
E-mail: drmgr04@gmail.com

PLAGIARISM CHECKING METHODS: [Jain H et al.]
- Plagiarism X-checker: Nov 18, 2025
- Manual Googling: Mar 26, 2026
- iThenticate Software: Mar 28, 2026 (2%)

ETYMOLOGY: Author Origin

EMENDATIONS: 7

AUTHOR DECLARATION:
- Financial or Other Competing Interests: None
- Was informed consent obtained from the subjects involved in the study? Yes
- For any images presented appropriate consent has been obtained from the subjects. Yes

Date of Submission: **Nov 14, 2025**
Date of Peer Review: **Jan 31, 2026**
Date of Acceptance: **Mar 31, 2026**
Date of Publishing: **Sep 01, 2026**