International Journal of Reproduction, Contraception, Obstetrics and Gynecology
Rathinasamy APDR et al. Int J Reprod Contracept Obstet Gynecol. 2026 Oct;15(10):4170-4172
www.ijrcog.org
pISSN 2320-1770 | eISSN 2320-1789

DOI: https://dx.doi.org/10.18203/2320-1770.ijrcog20263465

Case Report

From labour room to rehabilitation: foot drop following vaginal delivery — a case report of two cases

Auxeelia Packia Devi R. Rathinasamy*, Kanmani Parivallal

Department of Obstetrics and Gynaecology, RGGWCH, Puducherry, India

Received: 31 July 2026
Revised: 08 September 2026
Accepted: 09 September 2026

***Correspondence:**
Dr. Auxeelia Packia Devi R. Rathinasamy,
E-mail: auxeellia@gmail.com

ABSTRACT

Postpartum peripheral nerve injuries are uncommon neurological complications that may result in significant functional impairment. They can occur following vaginal delivery due to compression, traction, or prolonged positioning during labour, and may present as lower-limb weakness or foot drop. The common peroneal nerve is particularly vulnerable because of its superficial course around the fibular neck. We report two cases of postpartum foot drop following vaginal delivery in the absence of regional anaesthesia. The cases highlight the importance of recognizing obstetric peripheral nerve injuries, performing careful neurological assessment, localizing the site of nerve involvement, and excluding alternative neurological causes. Both patients were managed conservatively with neurological evaluation and rehabilitation, with subsequent clinical improvement. Awareness of postpartum nerve injuries and early initiation of appropriate rehabilitation may facilitate functional recovery and improve maternal outcomes.

Keywords: Postpartum neuropathy, Foot drop, Common peroneal nerve palsy, Vaginal delivery, Obstetric palsy

INTRODUCTION

Peripheral nerve injuries during childbirth are uncommon but may contribute to significant postpartum morbidity. Reported postpartum lower-extremity nerve injuries occur in approximately 0.3-2% of vaginal deliveries, with the distribution and clinical presentation depending on the nerve involved.[1] Although neuraxial anaesthesia may delay recognition of a neurological deficit in some patients, many postpartum neuropathies are intrinsic obstetric palsies caused by compression or stretch during labour and delivery.[2,3] Risk factors include prolonged labour, prolonged or extreme maternal positioning, fetal size and operative vaginal delivery.[1,3] Common peroneal nerve is particularly susceptible to compression because of its superficial course around the fibular neck. It carries fibres predominantly from the L4-S2 roots and divides into superficial and deep branches. The superficial branch supplies the evertor muscles and sensation over much of the dorsum of the foot, whereas the deep branch supplies ankle and toe dorsiflexors and sensation in the first interdigital space. Consequently, injury to the common peroneal nerve may present with weakness of dorsiflexion, foot drop, impaired eversion and a characteristic steppage gait. Accurate clinical localization is important because postpartum foot drop may also arise from radiculopathy, lumbosacral plexopathy, sciatic neuropathy or central neurological disorders.[3,6-8] The present report describes two patients who developed postpartum foot drop after vaginal delivery without regional anaesthesia. Cases illustrate differing clinical presentations and investigations while emphasizing a practical approach based on early neurological examination, exclusion of alternative causes and prompt rehabilitation.

CASE REPORTS

Case 1

A 26-year-old woman, G3P1L1A1, at 38 weeks of gestation underwent induction of labour. The induction-to-

delivery interval was 19 hours. The active phase of labour lasted 3 hours and the second stage lasted approximately 1 hour. She was positioned in dorsal lithotomy during delivery, and labour progress was monitored using a partograph. She delivered a live female infant weighing 3.6 kg with an Apgar score of 8/10. Active management of the third stage of labour was performed. On postnatal day 3, she reported difficulty using her right lower limb. Examination demonstrated impaired pain and touch sensation over the right L5-S2 dermatomal distribution. Motor examination revealed hip movements of 4/5, ankle dorsiflexion of 3/5, plantarflexion of 4/5, eversion of 3/5 and inversion of 3/5, with clinical features of right foot drop. Deep tendon reflexes were brisk. Visual evoked potentials were normal, and initial as well as repeat nerve conduction studies after 2 weeks were normal (Figure 1). MRI screening of the spine showed an incidental T2-FLAIR hyperintensity in the central pons (Figure 2). Following neurological consultation, a central cause, including central pontine myelinolysis, was considered in the differential diagnosis. There could also be possibility of lumbosacral plexus compression in the pelvis due to direct compression against pelvic bones apart from common peroneal nerve injury. She received intravenous methylprednisolone for 5 days followed by oral steroids and showed progressive clinical improvement.

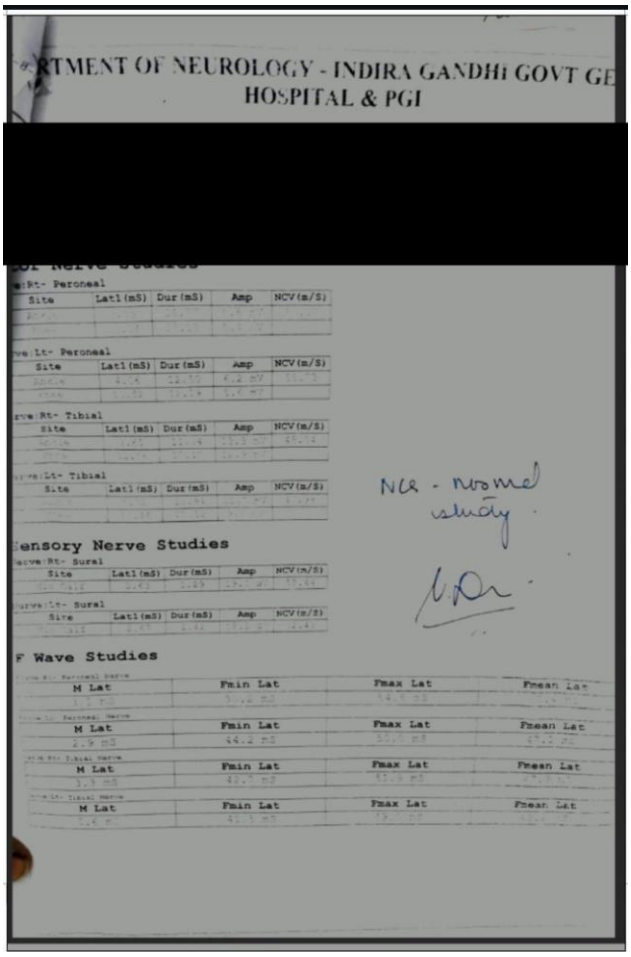

Figure 1: Nerve conduction study.

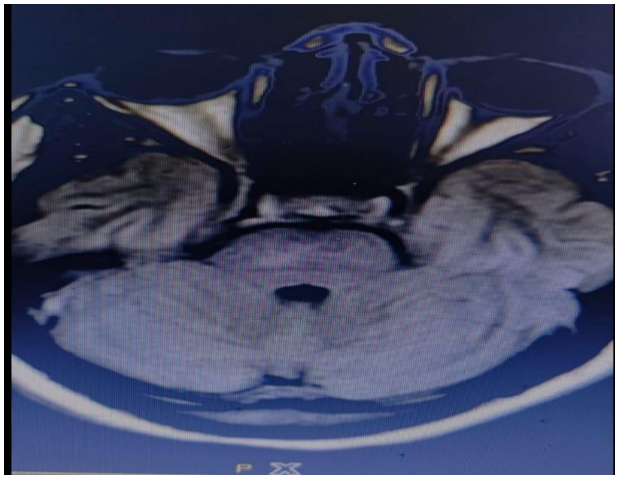

Figure 2: MRI showing T2 FLAIR hyperintensity in the central pons which is an incidental finding.

Case 2

A 27-year-old woman, G2P1L1, at 39 weeks of gestation with an uneventful antenatal history presented in spontaneous labour. The second stage lasted 1 hour and 22 minutes, and she delivered in the dorsal lithotomy position. A live infant weighing 3.05 kg with an Apgar score of 8/10 was delivered by vacuum-assisted vaginal delivery because of poor maternal effort. Active management of the third stage of labour was performed. Approximately one hour postpartum, she developed difficulty using the lower limb and a steppage gait. Sensory examination, including touch, joint position and vibration, was intact. Motor examination showed normal power at hip and knee (5/5), while ankle dorsiflexion was reduced to 2/5 and plantarflexion was 4/5. There was no history of regional anaesthesia/direct nerve trauma. Clinical exam localized the deficit to common peroneal nerve. Nerve conduction study demonstrated peroneal motor axonal neuropathy (Figure 3), while MRI was normal. She was treated conservatively with oral steroids, physiotherapy and foot exercises and showed gradual recovery within 1 week.

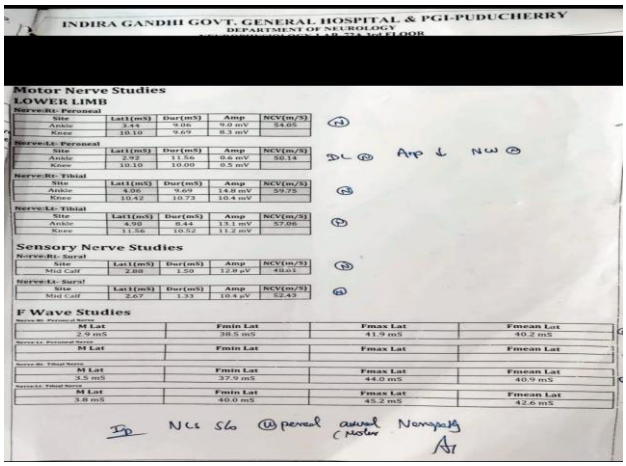

Figure 3: Nerve conduction study suggestive of peroneal motor axonal neuropathy.

DISCUSSION

The two patients described here developed postpartum foot drop after vaginal delivery without regional anaesthesia, supporting an intrinsic obstetric mechanism rather than an anaesthesia-related complication. Mechanical compression or traction during labour may affect the common peroneal nerve, particularly because the nerve is relatively exposed at the fibular neck. Prolonged labour, sustained lower-limb positioning and operative vaginal delivery are recognised circumstances in which lower-extremity neuropathies may occur.[1,3] The clinical patterns differed between the two cases. The first patient had sensory and motor deficits extending beyond a purely isolated peroneal distribution and underwent further neurological evaluation because of brisk reflexes and an incidental pontine MRI abnormality. The second patient had a more localized motor deficit with electrophysiological evidence of peroneal motor axonal neuropathy. These differences underline the importance of considering alternative sites of injury, including nerve root, plexus, sciatic nerve and central lesions, rather than attributing all postpartum foot drop to a single mechanism.[3,6-8] Early neurological examination remains the cornerstone of assessment. The pattern of weakness, sensory loss and reflex changes helps localize the lesion, while nerve conduction studies and imaging may be useful when the diagnosis is uncertain or when symptoms are atypical. Recent literature also emphasizes that recognition of postpartum sensorimotor deficits should not be delayed and that neurological symptoms may occur independently of neuraxial procedures.[4,5] Management is usually conservative and includes protection of the affected limb, physiotherapy and targeted rehabilitation. An ankle-foot orthosis may be considered when persistent dorsiflexion weakness compromises safe ambulation. The favourable improvement observed in both patients is consistent with the generally good prognosis reported for many postpartum compression or stretch neuropathies, although recovery depends on the severity and mechanism of nerve injury.[3,5,9] These cases reinforce the need for careful positioning during labour and prompt multidisciplinary assessment when a new neurological deficit is identified postpartum.

CONCLUSION

Postpartum foot drop may occur following vaginal delivery even in the absence of regional anaesthesia. Common peroneal neuropathy should be considered, particularly when labour is prolonged, lower-limb positioning is sustained or operative vaginal delivery has been performed. A structured neurological examination and appropriate investigations are essential to localize the lesion and exclude alternative causes. Early recognition and conservative rehabilitation can result in favourable functional recovery.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Wong CA, Scavone BM, Dugan S, Smith JC, Prather H, Ganchiff JN, et al. Incidence of postpartum lumbosacral spine and lower extremity nerve injuries. Obstet Gynecol. 2003;101(2):279-88.
2. O'Connor M, Galvin R, O'Connor C. Postpartum neurological complications: a review. J Neurol Sci. 2017;381:928-33.
3. O'Neal MA, Chang LY, Salajegheh MK. Postpartum spinal cord, root, plexus and peripheral nerve injuries involving the lower extremities: a practical approach. Anesth Analg. 2015;120(1):141-8.
4. Yang T, Chan WS, Chau A. Neuraxial procedures and time to recognition of postpartum lower limb sensorimotor deficit in an obstetric cohort: a retrospective cohort study (2013-2022). Int J Obstet Anesth. 2025;64:104740.
5. Lebedkin E, Shmuel S, Nir A, Kimiagar I, Peretz S, Kenan G, et al. Clinical features and prognosis of postpartum lower extremity nerve injury: a four-year single-center experience. J Neurol Sci. 2025;478:123698.
6. Boutros N, Saba D, Trikamji B. Postpartum sciatic neuropathy after uncomplicated vaginal delivery. Neurohospitalist. 2023;13(4):429-33.
7. Kim SH, Kim IH, Lee SY. Sciatic neuropathy after normal vaginal delivery: a case report. J Clin Neurosci. 2020;72:480-2.
8. Sousa LS, Pacheco J, Reis-de-Carvalho C, Lança F. Postpartum lumbosacral radiculopathy: a neuraxial anaesthesia complication or an intrinsic obstetric palsy. BMJ Case Rep. 2021;14(4):e241669.
9. Smiljkovic T, Miric L, Stanisavljevic Stanojevic J, SimiI NikoliI J. Postpartum common peroneal nerve injury-does anesthesia play a role? Reg Anesth Pain Med. 2025;50(1):A217.

Cite this article as: Rathinasamy APDR, Parivallal K. From labour room to rehabilitation: foot drop following vaginal delivery — a case report of two cases. Int J Reprod Contracept Obstet Gynecol 2026;15:4170-2.