STEROID-INDUCED MYOPATHY IN A 10-YEAR-OLD BOY WITH NEPHROTIC SYNDROME: A CASE REPORT

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ABSTRACT

OBJECTIVES

A 10-year-old boy who was undergoing protracted corticosteroid therapy for nephrotic syndrome presented with progressive lower back pain and difficulty walking, ultimately resulting in bed rest for a week. The clinical picture raised suspicion for steroid-induced myopathy, as there were normal findings on MRI spine, EMG, and nerve conduction investigations, as well as normal CPK level. Detailed evaluation and neurology consultation were conducted to exclude any additional neuromuscular causes. The patient's functional recovery was gradual as a result of steroid tapering, physiotherapy, and parents' education. He regained full mobility and resumed his regular daily activities at the two-week follow-up. This case highlights the significance of identifying steroid-induced myopathy in children who are taking long-term steroids. Early identification and supportive care can prevent long-term disability and result in a full recovery.

KEYWORDS: *Nephrotic Syndrome, Steroids, Myopathy*

INTRODUCTION

In nephrotic syndrome, protein is leaked from the circulation into the urine through the glomeruli, leading to hypoproteinemia and generalized edema.[1] One of the systematic reviews in children less than 16 years showed the annual incidence rate of 2 to 7 new cases per 100,000 children/year, and a prevalence rate of 0.016%.[2] Nephrotic syndrome is also prevalent in children in Pakistan, but the exact incidence and prevalence are not known. Steroids are the main treatment drug in the management of nephrotic syndrome. Multiple adverse clinical effects, including hypertension, insulin resistance, impaired wound healing, immunosuppression, and osteoporosis, are associated with the chronic ingestion of high-dose corticosteroids. Myopathy is one of the adverse effects of steroids.[3] Myopathy (muscle weakness) encompasses an extensive differential diagnosis. The nonspecific symptoms of muscle involvement are frequently masked by the patient's underlying disease, leading to under-recognition.[4] We are presenting a case report of one patient who developed glucocorticoid-induced myopathy with prolonged use of steroids for a continuous 18 months after taking proper consent. As in literature, we could not get any case report published in Pakistan on children with glucocorticoid-induced myopathy.

CASE REPORT

We report a case of a 10-year-old boy who was diagnosed and treated for nephrotic syndrome. The patient has been taking steroids continuously for the past 18 months, with intermittent reductions in the dosage, but was never off. The patient had been experiencing difficulty walking for the past month prior to presenting to the hospital. Subsequently, he got bedridden for one week. (Figure 1) As the patient developed symptoms, parents stopped the steroids. The patient was referred to a tertiary care hospital by the local hospital. The workup, which included an MRI of the spine, was unremarkable. The patient was subsequently referred to our institute for management. The patient's medical history was meticulously recorded. Nerve conduction investigations and electromyography were unremarkable, while the CPK level was 30.4 IU. Neurology input was taken management of patients was done instead of steroid-induced myopathy. Parents were educated, and physical therapy was administered. The patient's condition started to improve. The patient was discharged home after he began walking with assistance. A follow-up was conducted 2 weeks later, and the patient was able to walk and perform daily activities normally (Figure 2).

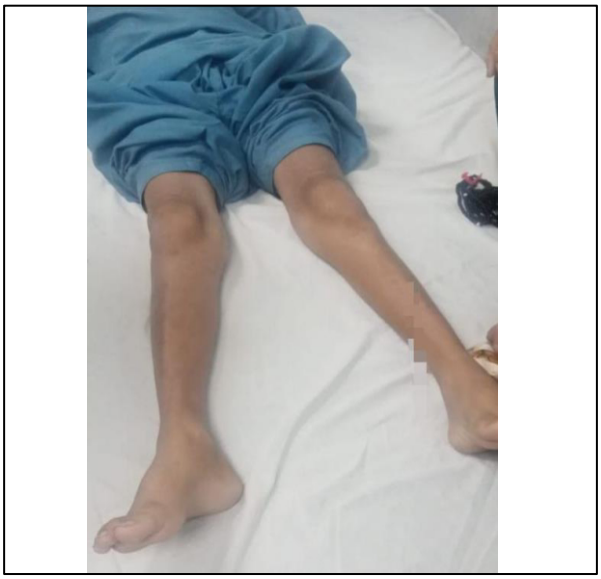

Figure 1: Bedridden Patient at Presentation

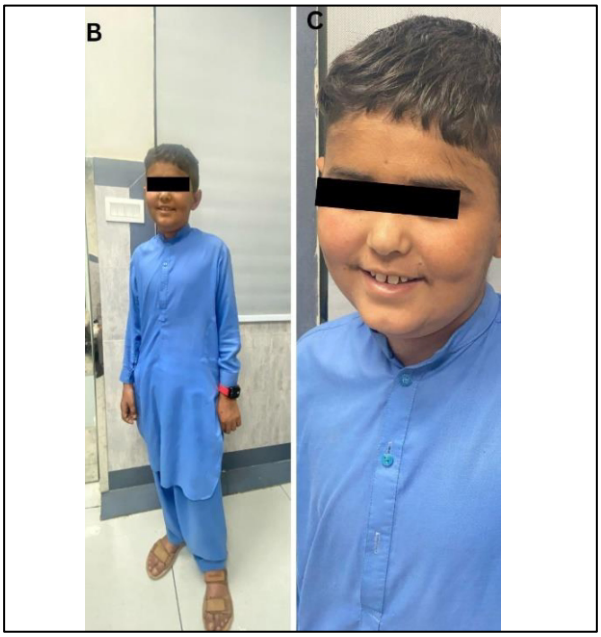

Figure 2: Patient on Follow-Up

DISCUSSION

Steroid/glucocorticoid-induced myopathy is the most prevalent form of drug-induced myopathy. It is characterized by atrophy, asymptomatic muscle weakness, and fatigue.[5] The proximal symmetric muscles of the lower extremities are the primary target, while the postural muscles may also be significantly affected. Significant atrophy of the surrounding muscles may also be observed, as patients may progressively lose the ability to stand up from a low chair, climb stairs, and ultimately perform activities of daily living.[6,7] Our patient was on steroids for eighteen months without a complete steroid-free interval in this instance. His symptoms of progressive paralysis and back pain initially raised concerns regarding neurological pathology; however, structural or neuropathic causes were ruled out by a normal MRI spine, normal nerve conduction studies, and EMG findings. The management of the condition entailed discontinuing or reducing corticosteroids and implementing supportive physiotherapy. The patient's extraordinary recovery over a brief period underscores the reversibility of this condition when detected early. This case highlights the significance of evaluating iatrogenic causes, such as steroid myopathy, in children who have chronic illnesses and have used steroids for an extended period of time, particularly when they present with musculoskeletal complaints. One case report by Pokharel S et al. showed that steroids also induce psychosis in children with nephrotic syndrome.[8]

CONCLUSIONS

Although uncommon, steroid-induced myopathy should be taken into account by any paediatric patient who exhibits progressive muscle weakness with no neurological findings and has received prolonged corticosteroid exposure.

CONFLICT OF INTEREST: None

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REFERENCES

1. Hahn D, Samuel SM, Willis NS, Craig JC, Hodson EM. Corticosteroid therapy for nephrotic syndrome in children. Cochrane database of systematic reviews. 2024(8). DOI: 10.1002/14651858.CD001533.pub7.
2. Muhammad AF, Alanezi FJ, Alanazi IM, Alanazi BS, Alanazi AK, Alenezi YH, et al. Overview of Nephrotic Syndrome in Arab Children: Systematic review. SMHJ 2023;4(1):41-7.
3. Vivarelli M, Gibson K, Sinha A, Boyer O. Childhood nephrotic syndrome. Lancet 2023;402(10404):809-24. doi: 10.1016/S0140-6736(23)01051-6.
4. Silver EM, Ochoa W. Glucocorticoid-induced myopathy in a patient SLE. Am J Case Rep 2018;19:277-83.
5. Hu Y, Lu C, Lin H. Concurrence of osteonecrosis and steroid myopathy secondary to oral steroid therapy in a patient with ABCB1 gene polymorphisms: A case report. Front Endocrinol 2022;7:13.
6. Wu M, Yu J, Zhong A, Tang Y, Li M, Liu C, et al. Muscle ultrasound to identify prednisone-induced muscle damage in adults with nephrotic syndrome. Steroids 2024; 207:109434.
7. Miernik S, Matusiewicz A, Olesińska M. Drug-induced myopathies: A comprehensive review and update. Biomedicines 2024:12(5):987.

8. Pokharel S, Bhusal A, Bhattarai HB, Yogi TN, Bhandari P, Pandit D. Steroid-Induced Psychosis in a Child With Nephrotic Syndrome Secondary to Focal Segmental Glomerulosclerosis: A Case Report. Clin Case Rep. 2024 Nov 29;12(12):e9642. doi: 10.1002/ccr3.9642. PMID: 39619317; PMCID: PMC11605252.

AUTHORS CONTRIBUTION

Syed Sajid Hussain Shah - *Concept & Design; Data Acquisition; Data Analysis/Interpretation; Drafting Manuscript; Critical Revision; Supervision; Final Approval*

The authors accept responsibility for all aspects of the work and will ensure that any concerns regarding the accuracy or integrity of any part are properly investigated and resolved.