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Pediatric Systemic Lupus Erythematosus Presenting as Class IV Lupus Nephritis with Congestive Heart Failure: A Case Report

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Abstract: ***Background: Lupus nephritis is one of the most severe manifestations of pediatric systemic lupus erythematosus (pSLE). Case Presentation: A 12-year-old girl presented with generalized edema, oliguria, hypertension, progressive dyspnea, and dark-colored urine. Investigations revealed anemia, proteinuria, hypoalbuminemia, renal dysfunction, and positive ANA. Renal biopsy confirmed Class IV lupus nephritis. Clinical findings were consistent with fluid overload and congestive heart failure. Management and Outcome: The patient was treated with pulse methylprednisolone, oral prednisolone, antihypertensive agents, diuretics, blood transfusion, and supportive care. Significant clinical improvement occurred prior to discharge. Conclusion: Early recognition of lupus nephritis in children presenting with edema and hypertension is essential to prevent irreversible organ damage.***

Keywords: Pediatric SLE; Lupus nephritis; Class IV lupus nephritis; Congestive heart failure; Autoimmune disease; Case report

1. Introduction

Pediatric-onset systemic lupus erythematosus is a chronic multisystem autoimmune disorder characterized by immune-complex mediated tissue injury. Renal involvement occurs in a substantial proportion of patients and remains a major determinant of prognosis. Diffuse proliferative lupus nephritis (Class IV) is the most aggressive form and requires prompt diagnosis and treatment.

2. Case Presentation

A 12-year-old female presented with facial puffiness for 12 days, swelling of limbs for 10 days, breathlessness for 8 days, and cough for 4 days. Symptoms were preceded by transient lower back pain. She developed oliguria, dark-colored urine, and burning micturition.

General examination revealed generalized edema, pallor, tachycardia (124/min), tachypnea (51/min), and hypertension (140/110 mmHg). Elevated jugular venous pressure and respiratory distress suggested fluid overload. Abdominal examination demonstrated ascites and mild hepatomegaly.

Investigations showed hemoglobin 7.4 g/dL, blood urea 58 mg/dL, serum creatinine 1.2 mg/dL, serum albumin 2.1 g/dL, total protein 4 g/dL, spot urine protein-creatinine ratio 2.6, and positive ANA. Renal biopsy demonstrated Class IV lupus nephritis.

Table of Key Investigations

- Hemoglobin: 7.4 g/dL
- Blood Urea: 58 mg/dL
- Serum Creatinine: 1.2 mg/dL
- Total Protein: 4 g/dL
- Serum Albumin: 2.1 g/dL
- Triglycerides: 233 mg/dL
- Spot Protein/Creatinine Ratio: 2.6
- ANA: Positive
- Renal Biopsy: Class IV Lupus Nephritis

Differential Diagnosis

Acute glomerulonephritis, post- streptococcal glomerulonephritis, rapidly progressive glomerulonephritis, nephrotic syndrome, minimal change disease, and diffuse proliferative glomerulonephritis were considered.

Treatment

The patient received intravenous methylprednisolone pulse therapy for three days followed by oral prednisolone. Additional treatment included furosemide, amlodipine, enalapril, carvedilol, antibiotics, packed red blood cell transfusion, dietary salt restriction, and strict fluid balance monitoring.

Outcome and Follow-Up

The patient showed progressive improvement in edema, respiratory distress, blood pressure control, and urine output. She was discharged in a hemodynamically stable condition with advice for nephrology and rheumatology follow-up.

3. Discussion

Class IV lupus nephritis is associated with extensive immune-complex deposition and carries a high risk of chronic kidney disease if untreated. Pediatric patients frequently present with nephritic-nephrotic features, hypertension, and systemic manifestations. Renal biopsy remains the gold standard for classification and therapeutic planning. Early aggressive immunosuppression is associated with improved renal survival.

This case emphasizes the importance of considering autoimmune etiologies in children presenting with edema, hypertension, and urinary abnormalities. The coexistence of congestive heart failure reflected severe fluid overload secondary to active renal disease.

4. Conclusion

Class IV lupus nephritis should be suspected in children presenting with generalized edema, hypertension, and urinary abnormalities. Prompt serological evaluation, renal

biopsy, and early immunosuppressive therapy are essential for optimal outcomes.

Declarations

Patient consent: Obtained.

Conflict of interest: None declared.

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Ethical approval: Not required for a single anonymized case report as per institutional policy.

References

[1] Fanouriakis A, et al. EULAR recommendations for SLE management.
[2] KDIGO Clinical Practice Guideline for Glomerular Diseases.
[3] Smith EMD, et al. Pediatric lupus nephritis: current perspectives.
[4] Hahn BH. Systemic Lupus Erythematosus and Lupus Nephritis.