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CASE REPORT

A Comprehensive case report on Henoch-Schonlein Purpura in a child

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Abstract: Henoch-Schonlein Purpura (HSP), also known as IgA vasculitis, is an uncommon vasculitic disorder characterized by immune-mediated inflammation affecting small blood vessels, particularly those in the skin, joints, gastrointestinal tract, and kidneys. Predominantly observed in the pediatric population, HSP entails the deposition of immune complexes in these vessels, instigating inflammatory responses leading to hemorrhagic manifestations such as palpable purpura. This case report delineates the clinical presentation, diagnostic assessment, and therapeutic interventions in the context of a 5-year-old child diagnosed with Henoch-Schonlein Purpura. Common manifestations include gastrointestinal symptoms, palpable purpura, arthralgias, and renal involvement. This report underscores the critical role of an inter-professional healthcare team in enhancing patient care and emphasizes that timely and appropriate interventions in HSP can ameliorate the disease progression, curtail organ damage, and forestall potentially life-threatening complications.

Keywords: Henoch-Schonlein Purpura; Vasculitis; Immunoglobulin-A; Koebnerization; Diascopy

1. Introduction

Henoch-Schonlein Purpura is a rare IgA-mediated auto-immune systematic vasculitis disorder mainly characterized by inflammation of small blood vessels affecting the vasculature of several systems including skin, gastrointestinal tract, renal system, and joints [1]. It causes mainly rash, swollen joints, belly pain, nausea, vomiting, protein, or blood in the urine, sub-acute edema, scrotal edema, hematemesis, rectal bleeding, diarrhea, and fatigue [2]. It is a systemic disease where the IgA complex activates the complement pathway, resulting in inflammation of blood vessels, and bleeding into the skin causing rashes (purpura). Its etiology is unclear but is associated with environmental, genetic, and antigenic factors apparat to contribute HSP. It typically affects children below 10 years old and is rarely seen in adults and adolescents [3]. It is the most common vasculitis in children and is estimated that 10 to 20 children per 100,000 per year are affected by this condition [4]. The global prevalence of HSP was estimated to be 3.6 per 100,000 [5]. It is more common in boys the girls [6]. The HSP is the common vasculitis cutaneous disorder in children mostly 90% of the cases [7, 8]. The reoccurrence rate is 2.7% to 30%. This case report discusses the clinical manifestation, evaluation, and management of HSP and explains the inter-professional team's role in improving patient care.

2. Case report

2.1. Presentation

A 5-year-old male patient was admitted to the department of pediatrics in the tertiary care hospital of Rajahmundry, Andhra Pradesh with the chief complaint of rashes for 1 week on their back, feet, and elbow associated with itching and patient had swelling of feet and both knees since today associated with pain and having low-grade intermittent fever for 1 week with a history of abdominal pain. He had no such significant history of illness. Also, no familial history of such an illness. The patient has a history of falls on a bicycle. The patient had taken a BCG immunization vaccine as per NIS. And BCG scar is present. The child on antenatal care, IFA taken, regular antenatal check-ups done, no history of gestational diabetes and gestational hypertension, and the baby cries immediately after birth.

2.2. Diagnosis

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Under general physical examination, pulse rate was 85bpm, respiratory rate 25/min, and temperature was found to be afebrile, SPO2 was 96%, and CRT was less than 3 seconds. Systemic examination was found to be normal. The patient was referred to a dermatologist's doctor on examination, he found multiple purpuric lesions over the lower limb, upper limb, and buttocks with diascopy present, and koebnerization present in which palms and soles are involved.

Laboratory investigation shows a Hb level of 11.6gm/dl%, WBC count-19,100 cells/cumm (leukocytosis), and the remaining blood cells are normal. CRP-7.3 mg/l, urine ketone bodies are positive, serum sodium 139meq/L, serum potassium 4.1meq/L, serum creatinine 0.4mg/dl urea- 17mg/dl, and liver function test found to be normal. Along with this the skin of the limbs was sent for biopsies and the biopsy report was found to be leukocytoclastic vasculitis with perivascular neutrophilic infiltrate (Figure 1).

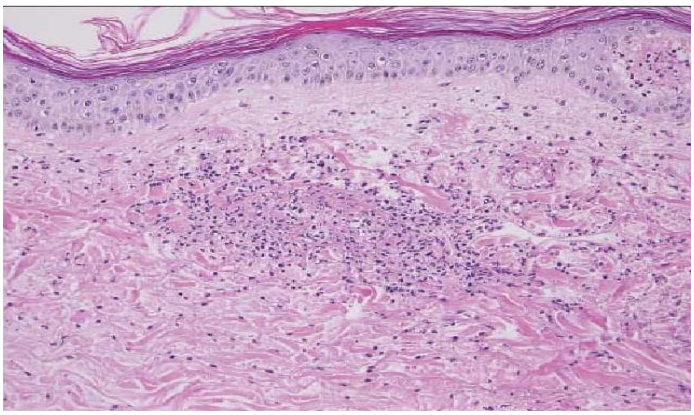

Figure 1. Leukocytoclastic Vasculitis with Perivascular Neutrophilic Infiltrate

2.3. Treatment

After confirmation of diagnosis, the standard treatment was started with tab- prednisolone 1mg/kg/day/BD, tab- pantoprazole 40 mg given ½ tab/OD, tab-paracetamol 10ml/bd/day, tab- azithromycin 250mg/OD, tab- syp- Atarax (hydroxyzine HCl) 5ml/day, tab- Serrato peptidase 10mg/BD/day along with this Elovera AD lotion bd/EA/day and Momate cream EA/over lesion at night/day. After treatment, a significant improvement was observed in the patient's symptoms and no new lesion was formed (Figure 2).

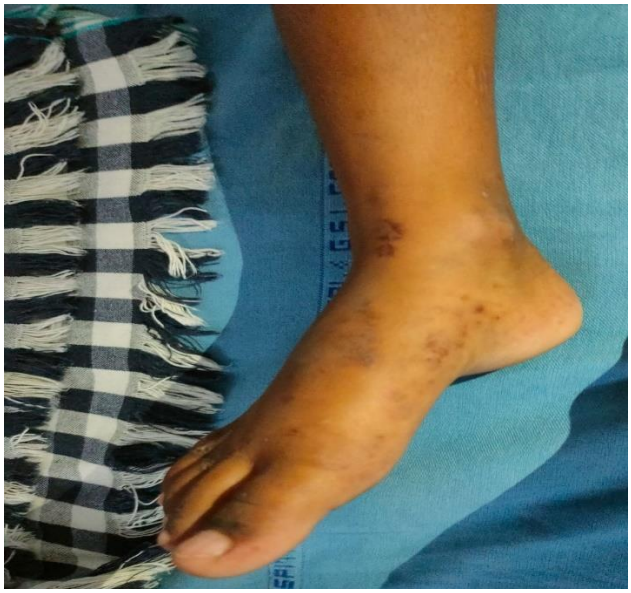

Figure 2. Improvement in the clinical appearance of the eruption, multiple, slightly elevated purpura were present

He was discharged on the 8th day of hospitalization with the oral medication of tab- prednisolone 1mg/kg/day/BD, tab- pantoprazole 40 mg given ½ tab/OD, tab- azithromycin 250mg/OD, tab- syp- Atarax (hydroxyzine HCl) 5ml/day, tab- Serrato peptidase 10mg/BD/day along with this Elovera AD lotion bd/EA/day and Momate cream EA/over lesion at night/day. As it

can have periods of remission nature. So, ongoing monitoring and adjustment of treatment are often necessary to manage the condition so it is necessary for the patient to require regular follow-up appointments with their healthcare professional to monitor the disease actively and adjust the treatment as necessary depending upon their clinical manifestation.

3. Discussion

Henoch-Schonlein purpura (HSP) is an immunoglobulin A (IgA) small-vessel vasculitis that commonly involves the skin, joints, gastrointestinal tract, and kidneys. It is the most common type of vasculitis seen in children [1]. The exact cause of HSP is unknown, but it is hypothesized to be associated with infections, drug use, certain cancers, or other triggers that induce an abnormal immune response in genetically susceptible individuals [2].

While the patient's clinical features were consistent with a diagnosis of HSP, there are a few notable points for discussion. Firstly, HSP commonly presents with palpable purpura on the lower extremities, buttocks or upper thighs [3]. The patient in this report presented with purpuric lesions on the lower and upper limbs as well as the buttocks, which aligns with the typical distribution seen in HSP. Diascopy, which refers to pressing on the purpuric lesions and blanching of the skin, and evidence of koebnerization (appearance of new purpuric lesions in areas of trauma or irritation to the skin) further supported the diagnosis of HSP [4].

The presence of leukocytosis, elevated erythrocyte sedimentation rate, and biopsy showing leukocytoclastic vasculitis also corroborated an active vasculitic process consistent with HSP [5]. Kidney involvement is seen in 20-50% of children with HSP and is an important factor influencing long term outcomes [6]. Fortunately, the patient's renal function tests were normal indicating absence of significant renal involvement at presentation. Early initiation of steroid therapy in this patient likely helped prevent renal involvement from developing, though long term follow up will be needed to monitor for this complication.

Special consideration was also given to management in view of the risk of reactivation or relapse, which occurs in up to 35% of pediatric HSP cases [7]. The combination of systemic steroids, antihistamines, antibiotics and topical agents used effectively controlled the patient's symptoms. Close monitoring during tapering of steroids and surveillance thereafter will be important given the risk of disease flare ups. An inter-professional approach involving pharmacy, nursing and physician care supported optimal patient management and clinical improvement in this case of HSP.

4. Conclusion

In conclusion, this case report describes the clinical features, evaluation findings, treatment approach and outcome of a 5-year old male child presenting with Henoch-Schonlein purpura. The diagnosis of HSP was established based on characteristic clinical features of palpable purpura, gastrointestinal symptoms, arthritis and supportive lab investigations including biopsy showing leukocytoclastic vasculitis. Aggressive treatment with systemic steroids, symptomatic therapies and close monitoring enabled effective control of the disease and improvement of symptoms. Given the risk of relapse, long term follow up will be required. This case underscores the importance of timely diagnosis and management of HSP by a multidisciplinary team to mitigate complications and achieve optimal clinical outcomes.

Abbreviations

HSP: Henoch-Schonlein Purpura
IgA: Immunoglobulin-A
BCG: Bacillus Calmette-Guerin
CRT: C-Reactive Protein
NIS: National Immunization Schedule
NSAID: Non-steroidal Anti-Inflammatory Drug
BD: Bis in Die
OD: Omne in Die

Compliance with ethical standards

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Conflict of interest statement

All authors declare that there is no conflict of interest.

Statement of informed consent

Informed consent was taken from the patient's parents.

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Author's short biography

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PharmD student dedicated to the art and science of pharmacy. Fueled by a passion for patient-centered care, I aim to leverage my academic background in pharmaceutical sciences to make a positive impact on healthcare outcomes. Eager to integrate clinical expertise with a compassionate approach, I strive for excellence in the evolving field of pharmacy practice.

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