**CASE REPORT**

# The Use of Early Oral Corticosteroid for Henoch-Schönlein Purpura: A Case Report from Rural Primary Health Care

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## ABSTRACT

Henoch-schönlein purpura (HSP) is a frequent kind of vasculitis juvenile population. This case report narrated the use of early oral corticosteroid in HSP. A 13 year-old girl came with non-itchy rash on all extremities and bilateral knee pain since 3 weeks before. Physical examinations and laboratory tests were performed. The diagnosis of HSP was made. The patient was prescribed with oral prednisone, analgesics, and antacids. Musculoskeletal symptom was resolved within two days and the purpura slowly disappeared within a week. There is standardization of prescribing early oral corticosteroid in HSP yet. Initiation of oral corticosteroid might improve the symptoms rapidly.

**Key Words:** *Early treatment; Henoch-schönlein purpura; IgA vasculitis; Oral corticosteroid; Prednisone*

## INTRODUCTION

Henoch-schönlein purpura (HSP) is a form of small vessel vasculitis, generally occurring in juvenile population with a rate of 20 cases per 100.000 children per year.[1] The peak incidence of HSP comes about between the ages of 4 and 6 years. It is interpreted as accumulation of immunoglobulin A (IgA) immune complex at the vessel walls.[2] The pathophysiology of HSP is still unclear, but genetic predisposition, environmental, and host triggers play an indispensable part in the progress of the disease.

HSP is commonly self-limiting and only symptomatic relievers are needed. But in some cases, it can cause complications such as digestive system disturbance and chronic renal disease.[3] Therefore, specific intervention may be required. The use of oral corticosteroid may be benefit for some symptoms reliever. Here we present a case of HSP in children treated with early oral corticosteroid.

## CASE REPORT

In July 2022, a 13 year-old girl came to primary health care with chief complain of non-itchy rash on upper and lower extremities since three weeks ago. Bilateral knee pain was documented. No history of fever, abdominal pain, reduced urine output, reddish colour of urine, or black stool.

**Fig 1. Palpable purpura on upper and lower extremities**

Vital signs showed no abnormalities. On physical examination, there were palpable purpura on all extremities (fig. 1). The abdomen was non-tender and soft. Knee examination showed moderate pain of active and passive knee movement. No signs of photosensitivity, malar rash, oral ulcer, and lymphadenopathy.

Laboratory findings showed Hb: 11.1 g/dl; Hct: 34%; RBC: 4.2 x $10^6$/mm; WBC: 5.100/$mm^3$; Plt: 397.000/$mm^3$; ESR: 85mm/h. Urinalysis showed no haematuria and no proteinuria. Diagnosis of HSP was made based on ACR 1990 criteria and EuLAR/PreS 2010 criteria. The patient was treated with prednisone 10mg t.i.d, ibuprofen 400mg t.i.d, and antasida syr 10ml t.i.d *ante coenam.* The patient made a second visitation after a week after treatment. The knee pain was completely resolved in two days, and the purpura was diminished latently within a week (fig. 2)

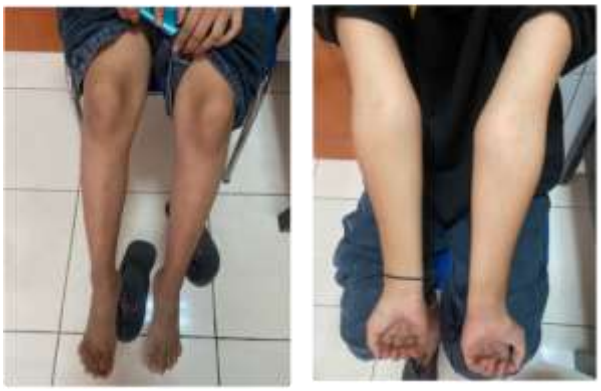

**Fig 2 Should be positioned here**

## DISCUSSION

IgA vasculitis, known as HSP, is one of capillaries vasculitis which frequently happens in younger age.[1] It is described as the accumulation of IgA immune complex at the affected vessel walls, frequently the capillaries of skin, musculoskeletal system, kidney, and gastrointestinal (GI) tract.[2] Clinical manifestations of HSP may be varied, range from mild non-pruritic purpura and arthralgia to severe GI and kidney involvement.[3] Rash is mainly appearing as early manifestation of HSP. The involvement of musculoskeletal, arthritis and arthralgia, is seen in 74% of HSP patients.[4] The musculoskeletal symptoms usually resolve in less than a week. The GI involvement may range from tolerably abdominal pain to life-threatening digestive system problems. It may also be the early manifestation of HSP in 10 – 12% of cases.[3–5] Renal involvement is the utmost cause of fatality of HSP. It is seen in around 20 – 60% of the patients. The most frequent form of renal involvement is microscopic haematuria.[6]

According to The American College of Rheumatology in 1990,[77], diagnosis of HSP should meet no less than 2 of 4 criteria: palpable purpura, age 20 at diagnosis, abdominal discomfort, or wall granulocyte on biopsy. Based on European League Against Rheumatism (EuLAR) and Paediatric Rheumatology Society (PReS) 2010,[77], diagnosis of HSP ought to be made by discovering the palpable purpura as mandatory criteria and no less than one of the following criteria: diffuse intestinal colic, inflammation of the joint or joint discomfort, kidney connivance (hematuria and/or proteinuria), and a biopsy showing predominant IgA accumulation.

It is illustrated that a 13 year-old girl presented with palpable purpura on all extremities, predominantly in lower extremities, and arthralgia on bilateral knees. In this case, the patient fulfilled 2 of the 4 criteria of 1990 The American College of Rheumatology (palpable purpura and age 20 at disease onset). She also fulfilled HSP criteria diagnosis by 2010 European League Against Rheumatism (EuLAR) and Pediatric Rheumatology Society (PReS); tangible purpura as mandatory criteria, and arthralgia as additional criteria.[7]

Most of HSP cases are usually self-limiting and only require supportive care. In several cases, specific treatment should be given depend on the severity of disease. There has not been guideline regarding the use of oral corticosteroid for HSP yet, but several studies had proven the benefit of oral corticosteroid for HSP.

A randomized control trial proved that treatment group (admitted early oral prednisone, 2 mg/kg/day for one week, with weaning over a second week) had shorter time scale of rash and joint discomfort than placebo group. In contrast, prompt admission of prednisone did not lower the risk of kidney involvement.[8] Study by Ronkainen et al[9] stated that oral prednisone at a dose of 1 mg/kg/day for two weeks, with disinclining dose

for the next two weeks, was effectual in decreasing the severity and duration of abdominal pain and arthralgia. It did not act as a prevention of renal involvement, but early oral prednisone could significantly resolve renal symptoms rapidly than those in placebo group. In UK, a randomized control study showed that early oral prednisolone treatment at a dose of 2 mg/kg/day for a week, and then 1 mg/kg/day for the next seven days, did not significantly reduced the incidence of nephropathy in HSP patient.[10] In this case, the patient was given oral prednisone and analgesic. A week later, the patient did the appointment. The joint pain resolved within two days after treatment, whether the purpura slowly diminished in seven days. No adverse effects were documented.

As has been demonstrated, the patient was diagnosed with Henoch-schönlein purpura based on ACR 1990 criteria and EuLAR/PreS 2010 criteria. She was treated with oral prednisone. Within two days, the knee pain was completely resolved and seven days later, the purpura slowly diminished. The oral corticosteroid treatment for HSP is not standardized yet. Based on several studies, early oral corticosteroid treatment could reduce the severity of abdominal pain and musculoskeletal symptoms, but it did not prevent the kidney involvement. Therefore, the use of early oral corticosteroid tend to be considered as symptoms relievers. Further studies are required to confirm this association.

**Conflict of interest:** None

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