ISSN NO: 2770-2936
June 2025

Prevalence and Clinical Patterns of the Abdominal Variant of Henoch-Schonlein Purpura in Pediatric Populations: A Retrospective Study from a Tertiary Care Center in Uzbekistan

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Annotation. This study presents a retrospective analysis of the abdominal form of Henoch-Schönlein purpura (HSP) in pediatric patients treated at the Multidisciplinary Medical Center of the Tashkent Medical Academy between 2020 and 2024. The aim was to determine the prevalence, clinical characteristics, and complication rates associated with this variant. Among 124 children diagnosed with HSP, 43.5% exhibited abdominal symptoms, including colicky pain, vomiting, and gastrointestinal bleeding. In nearly one-third of these cases, abdominal symptoms preceded the appearance of skin purpura, complicating early diagnosis. Abdominal ultrasonography proved useful in identifying intestinal wall thickening and mesenteric lymphadenopathy. Intussusception occurred in 9.3% of patients, with one case requiring surgical intervention. The study highlights the need for heightened clinical vigilance and the use of imaging tools in pediatric patients with acute abdominal symptoms to improve early diagnosis and prevent severe complications.

Keywords: Henoch-Schönlein purpura, IgA vasculitis, pediatric epidemiology, abdominal form, gastrointestinal vasculitis, ultrasonography, retrospective study

Background: Henoch-Schönlein purpura (HSP), currently referred to as IgA vasculitis, represents the most prevalent leukocytoclastic vasculitis in children, with an incidence rate ranging from 10 to 20 per 100,000 children annually. The disease is characterized by immune complex deposition in small vessels, resulting in multi-organ involvement, particularly affecting the skin, joints, kidneys, and gastrointestinal tract. While cutaneous manifestations such as palpable purpura are considered hallmark features, abdominal involvement—often referred to as the abdominal variant—poses significant diagnostic difficulty due to its nonspecific and sometimes misleading presentation. Delayed recognition of this form may result in severe gastrointestinal complications, including intussusception, hemorrhage, and, in rare cases, perforation. Epidemiological data specific to Central Asian pediatric populations remain limited, emphasizing the need for regional studies.

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Objective: This study aimed to determine the prevalence, demographic characteristics, clinical presentation, and complication profile of the abdominal form of HSP among children admitted to a tertiary pediatric facility in Uzbekistan over a five-year period.

Materials and Methods: A retrospective analysis was carried out on 124 pediatric patients aged 3 to 15 years who were diagnosed with HSP at the Multidisciplinary Medical Center of the Tashkent Medical Academy from January 2020 through December 2024. Inclusion criteria were based on the EULAR/PRINTO/PRES diagnostic classification for HSP. Patients exhibiting gastrointestinal involvement—defined as persistent abdominal pain with or without associated symptoms (nausea, vomiting, GI bleeding), and/or ultrasonographic evidence of intestinal edema or mesenteric lymphadenopathy—were classified as having the abdominal variant. Data on demographic variables, laboratory markers (CRP, ESR, leukocyte count), imaging results, duration of hospitalization, and clinical outcomes were systematically collected. Statistical analyses were performed using SPSS 25.0 with a significance threshold set at $p < 0.05$.

Results. A total of 124 pediatric patients diagnosed with Henoch-Schönlein purpura (HSP) were retrospectively analyzed over a five-year period (2020–2024). Among these, 54 children (43.5%) demonstrated clinical and/or radiological signs of gastrointestinal involvement, qualifying as the abdominal form of HSP. This prevalence aligns with the international range of 30–50% reported in previous multicenter studies (Trapani et al., 2005; Tabel et al., 2015).

The abdominal variant group showed a male predominance, with a male-to-female ratio of 1.5:1. The mean age was 8.1 ± 2.6 years, which corresponds to prior epidemiological findings that HSP predominantly affects school-aged children, especially boys (Saulsbury, 2007). All 54 patients experienced colicky abdominal pain (100%), making it the most common presenting symptom. Vomiting was noted in 28 cases (51.8%), and signs of gastrointestinal bleeding (melena or hematemesis) were seen in 9 patients (16.7%). In 29.6% of cases (n=16), abdominal symptoms appeared 1–3 days prior to the hallmark purpuric rash. Such atypical presentations often led to diagnostic delays and unnecessary surgical referrals, particularly in rural emergency departments lacking access to pediatric imaging tools (Weiss, 2012).

These delays can result in significant diagnostic confusion with acute appendicitis or intussusception. The necessity for differential diagnosis is especially crucial in regions with limited awareness of IgA vasculitis presenting without skin involvement (Weiss, 2012). All patients with abdominal symptoms underwent abdominal ultrasonography. The two most common sonographic findings included bowel wall thickening (in 70.4% of cases) and mesenteric lymphadenopathy (61.1%). These results are consistent with a Chinese pediatric cohort studied by Chen et al. (2018), who reported bowel wall edema in 68% and lymphadenopathy in over 60% of abdominal HSP cases. Small intestinal segments, particularly the ileum and jejunum, were most commonly affected.

ISSN NO: 2770-2936
June 2025

In some cases, ultrasonography also revealed transient intussusception, which resolved spontaneously in most instances. Intussusception was diagnosed in 5 children (9.3%), a rate within the 5–15% range reported by Kaku et al. (2012). Four of these cases responded to conservative therapy, while one child (1.8%) required surgical intervention due to intestinal obstruction. No perforations or mortalities were observed during hospitalization.

Laboratory findings revealed elevated C-reactive protein (CRP) and erythrocyte sedimentation rate (ESR) levels in 79.6% of abdominal cases, while leukocytosis was seen in 61.1%. Previous work by Tabel et al. (2015) supports this trend, noting that heightened inflammatory markers may predict the severity of abdominal and renal complications in HSP. Children with abdominal involvement had a longer mean hospital stay (9.3 ± 2.1 days) compared to those with only cutaneous or articular manifestations (5.1 ± 1.4 days, $p < 0.01$). This reflects the added complexity of managing gastrointestinal symptoms and the need for close observation to prevent complications (Tabel et al., 2015).

Compared to similar studies from Central Asia and Eastern Europe, the prevalence of abdominal HSP in this cohort falls within the expected range. However, the observed diagnostic delay, especially in patients with initial abdominal-only symptoms, may stem from insufficient implementation of the EULAR/PRINTO/PRES diagnostic criteria at the primary care level (Ozen et al., 2010). Early integration of ultrasonography and clinical suspicion of HSP in children with acute abdomen, even in the absence of purpura, is therefore essential.

Conclusion. The abdominal form of Henoch-Schönlein purpura was present in nearly half of pediatric cases in this cohort, consistent with global trends. This variant is associated with more severe clinical manifestations, a higher risk of complications, and extended hospital stay. Early abdominal pain as the initial symptom in nearly one-third of cases underscores the importance of considering HSP in the differential diagnosis of acute abdomen in children, especially in the absence of purpura. Integration of imaging techniques, particularly abdominal ultrasonography, into the early diagnostic algorithm can facilitate prompt and accurate diagnosis, thereby improving clinical outcomes and minimizing the need for surgical intervention.

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ISSN NO: 2770-2936
June 2025

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