Chapter 25
Pediculid: An Autosensitization Dermatitis Developed as an-Id Reaction to Pediculosis Infestation

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Case Presentation

We report a 6 years old girl presenting with a 2 weeks generalized eczematous rash with a progressive nature. On examination polymorphic disseminated itchy rash was found consisting of groups of erythematous papules, vesicles and eczematous plaques. Lesions had a bluish grey shadows along with dusky-red erythema and fine white scales on the trunk, upper and lower limbs (Figs. 25.1 and 25.2). In addition, old slightly hyperpigmented patches and enlarged cervical lymph nodes were detected. According to her parents report, she only received ibuprofen for her fever but no other medications.

Further examination revealed massive infestation adult louse and nits. Feeding adult louse was filmed and residuals from newly hatched nymphs after moulting pictured under dermoscopic examination (Polarized DL4, ×10). Some impetiginized lesions on scalp were found as well (Figs. 25.3, 25.4 and 25.5).

Based on the case description, clinical and dermoscopic photographs, what is your diagnosis?

1. Pediculosis Capitis.
2. Scabies
3. Atopic Dermatitis
4. Pediculid.

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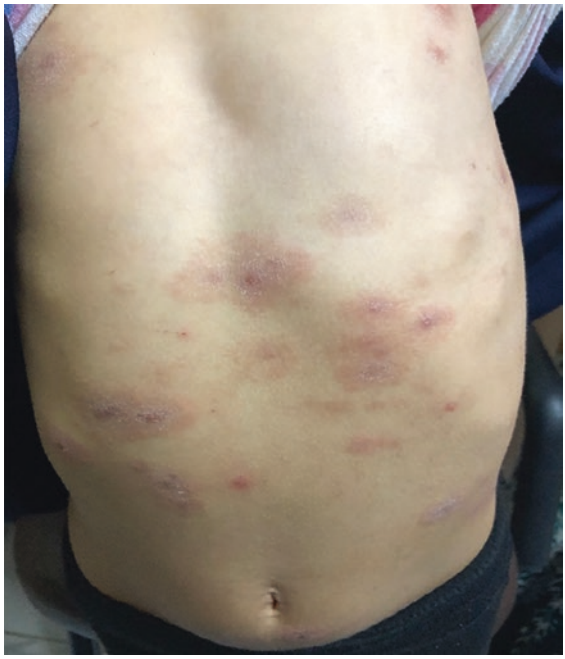

Fig. 25.1 Initial presentation of lesions

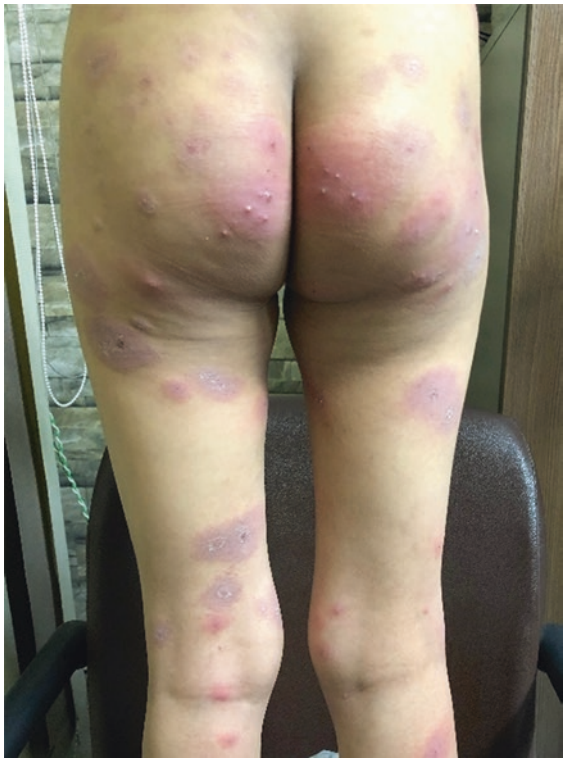

Fig. 25.2 Initial presentation of lesions

Fig. 25.3 Dermoscopic examination showing a feeding adult louse

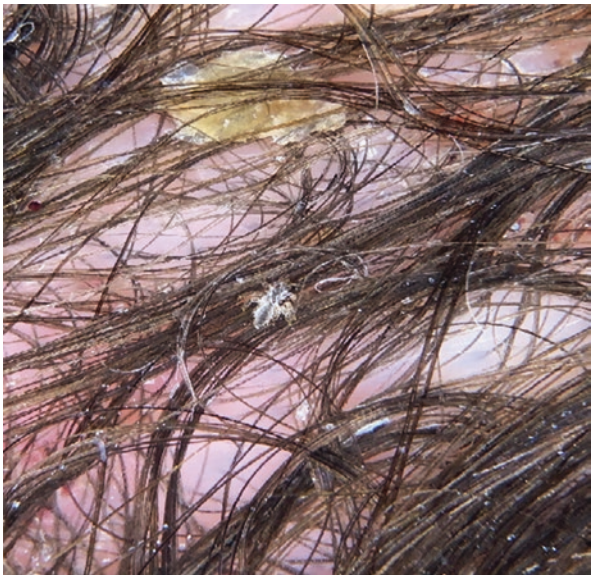

Fig. 25.4 Dermoscopic examination showing residual Chitin cover after nymph moulting

Fig. 25.5 Dermoscopic examination showing nits

Diagnosis

Pediculid

The diagnosis of Pediculid was made according to clinical picture and findings described above, as well as history and examination of clothes to exclude co-infestation with *Pediculus humanus corporis*. Treatment prescription included Potassium permanganate as wet dressing for impetiginized scalp lesions and for the same treatment purposes systemic antibiotic therapy with Amoxicillin/Clavulanic acid with general dosing according to age and weight. Cetirizine, an antihistamine was prescribed to relieve itching. Main treatment was oriented to eliminate head louse infestation—Ivermectine 1% lotion along with manual nits' elimination by special hair combing technique.

On follow up examination after 2 weeks full resolution of skin lesions was observed. Head louse infestation was eliminated but additional prophylactic treatment with ivermectine lotion was recommended once weekly and for 2 consecutive weeks (Figs. 25.6 and 25.7). The patient did not comply with the prophylactic treatment and came back with the same manifestation of ID-reaction after 2 weeks (Figs. 25.8 and 25.9). She was finally successfully treated by only Ivermectine 1% lotion to eliminate the Pediculosis.

Discussion

Pediculosis capitis is an infestation caused by *Pediculus humanus capitis* ectoparasite, a six legged parasite, nesting on the scalp [1]. The most common symptom seen in the patients is itching on the scalp, appearing approximately 7–10 days after

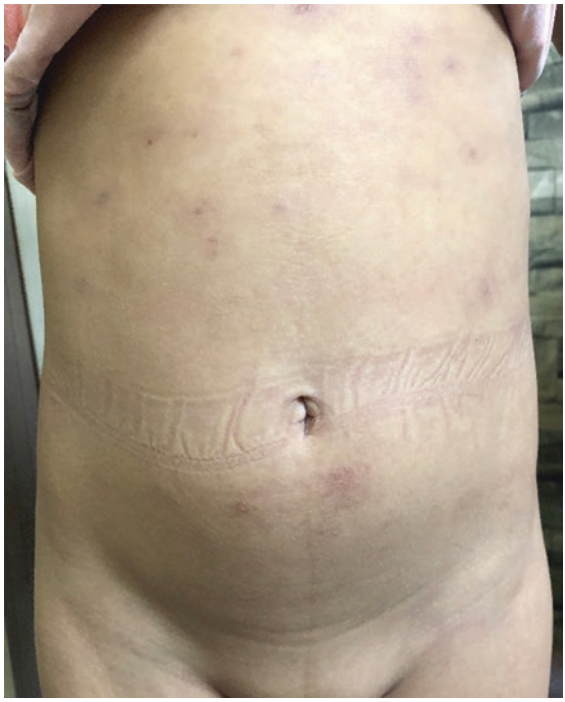

Fig. 25.6 Follow up examination status showing complete clearance of lesions

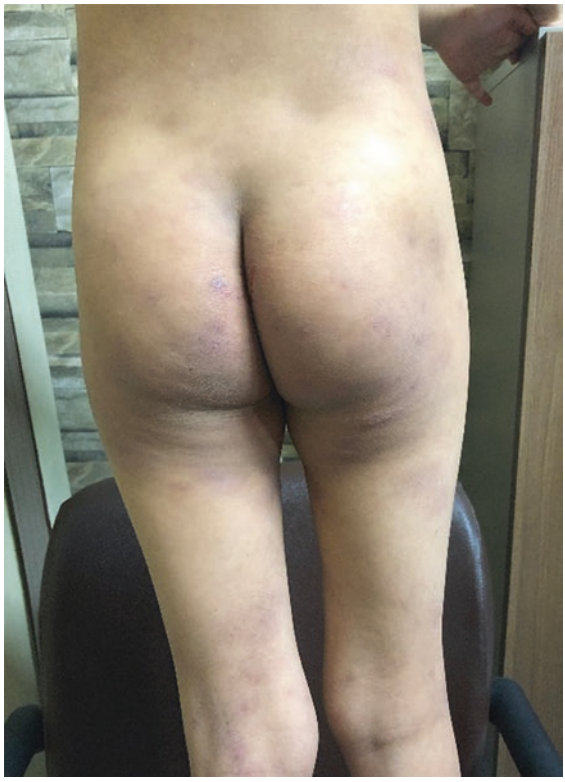

Fig. 25.7 Follow up examination status showing complete clearance of lesions

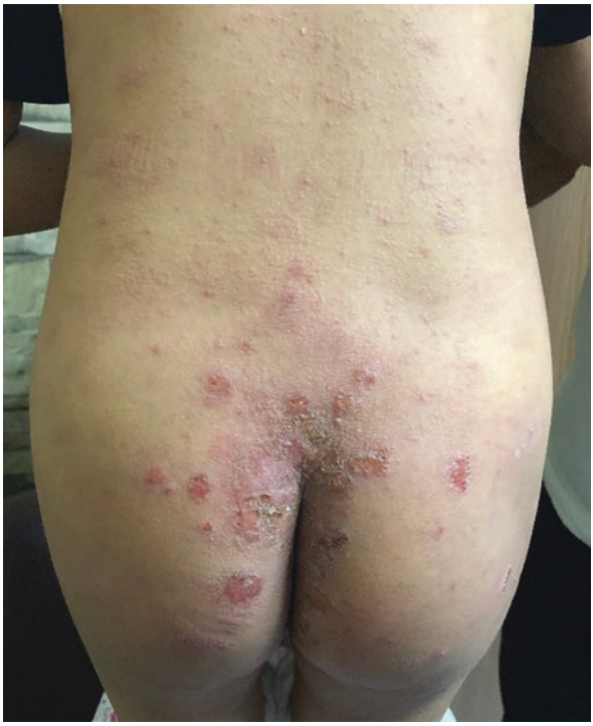

Fig. 25.8 Reappearance of skin lesions

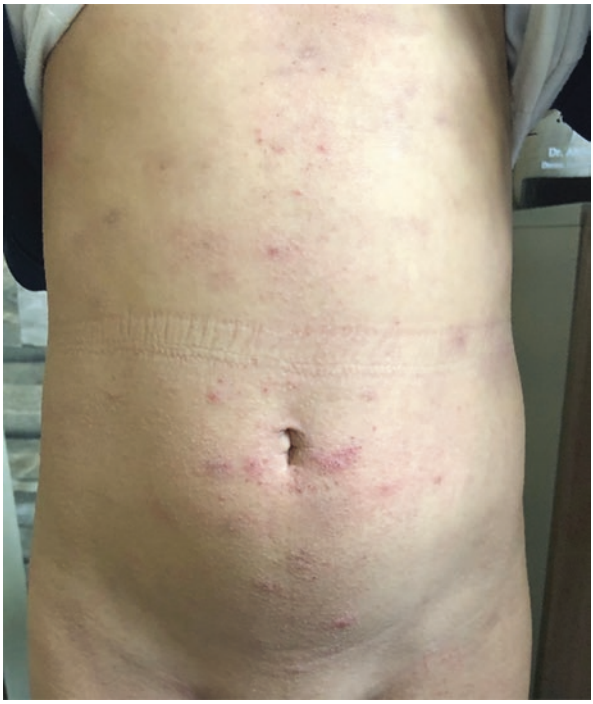

Fig. 25.9 Reappearance of skin lesions

sensitivity to the parasite's saliva or excrement antigens [1, 2]. Following the severe itching, excoriations, secondary bacterial infection, occipital or cervical lymphadenopathy might develop [3]. Autosensitization dermatitis is an acute dermatitis appearing as itchy erythematous, maculopapular or papulovesicular lesions away from the primary inflammation focus [4]. Although it is seen most frequently in leg ulcer patients, infections, trauma, irritant or allergic chemical substance contact and ionizing radiation may also cause irritation [5]. Even though the etiology of the eczematous reaction is not known for certain, autosensitization developing against the epidermal antigens is emphasized [6]. When being related with an infectious case, it is referred as dermatophytid, pediculid, bacterid or virusid in accordance with the etiologic factor [7]. The pruritic rash related with pediculosis capitis was first defined by Ronchese in 1946 [8]. Brenner and his colleagues were the ones who used the term of pediculid for the first time in 1984, by describing pruritic eruption related with pediculosis capitis [7]. To our knowledge there are only four pediculid cases in the literature. While generalized pruritic skin-colored papules existed on two patients with pediculosis capitis, the other case was a bullous pediculid identified in a patient with pediculosis pubis [7–9]. Hereby, with the presentation of a rarely reported pediculid case, the importance of exploring infection or infestation focus explore in patients who present with generalized pruritic maculopapular eruption was emphasized, before considering any complicated diagnosis requiring advanced examinations

References

1. Morris GE. Pediculosis corporis and leg ulcers. N Engl J Med. 1945;233:180. https://doi.org/10.1056/NEJM194508092330603.
2. Ronchese F. Generalized dermatitis from pediculosis capitis. N Engl J Med. 1946;234:665. https://doi.org/10.1056/nejm194605162342003.
3. Rapini RP, Bolognia JL, Jorizzo JL. Dermatology: 2-volume set. St. Louis: Mosby; 2007. p. 224. ISBN 978-1-4160-2999-1.
4. Brenner S. "Pediculid": an unusual id reaction to pediculosis capitis. J Am Acad Dermatol. 1985;12(1 Pt 1):125–6. https://doi.org/10.1016/s0190-9622(85)80256-5.
5. Kern AB. Bullous eruption due to pediculosis pubis. AMA Arch Derm Syphilol. 1952;65(3):334–9. https://doi.org/10.1001/archderm.1952.01530220075007.
6. Brenner S, Ophir J, Krakowski A. Pediculid. An unusual -id reaction to pediculosis capitis. Dermatologica. 1984;168(4):189–91.
7. Takcı Z, Tekin O, Karadağ AS. A pediculid case: autosensitization dermatitis caused by pediculosis capitis. Turkiye Parazitol Derg. 2012;36(3):185–7. https://doi.org/10.5152/tpd.2012.44.
8. Leo N, Hughes J, Yang X, et al. The head and body lice of humans are genetically distinct (Insecta: Phthiraptera, Pediculidae): evidence from double infestations. Heredity. 2005;95:34–40. https://doi.org/10.1038/sj.hdy.6800663.
9. Ferri FF. Ferri's clinical advisor 2018: 5 books in 1. Philadelphia, PA: Elsevier. 2018. p. 690. ISBN 9780323280495. OCLC 989151714.