Title page

Title: Entodermoscopy of *Pediculosis capitis*

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- Clinical presentation

A 3-year-old girl presented to the dermatology department with a 2-month history of itchy scalp. Dermatologic examination revealed nits firmly attached to the parietal and occipital scalp hair shafts.

- Dermoscopic appearance

Dermoscopy showed empty nits (Fig.1A) and several lice feeding on blood (Fig. 2, video), confirming the diagnosis of pediculosis capitis. The video shows blood moving along the parasite's digestive system and a louse running from the light. Images were acquired using a handheld dermoscope with a 10-time magnification (DermLite DL4; 3Gen, USA) attached to a smartphone with a 2-time optical zoom (iPhone 8, Apple Inc, CA, USA). Total magnification was 20x.

- Key message

Head lice infestation is caused by *Pediculus humanus var capitis*, an obligatory human hematophagous ectoparasite. Lice typically avoid light and move quickly, so their detection becomes easier in heavy infestations. Entodermoscopy uses the dermoscope in the diagnostic work-up of infectious and parasitic dermatoses. (1,2) This approach enables identifying the pathogen and observing its behavior in its natural environment. Dermoscopy is a non-invasive tool that helps diagnose pediculosis and facilitates treatment monitoring with minimal discomfort to the patient. Under polarized dermoscopy, the body of lice is translucent so that one can easily see blood moving along the digestive tube of the parasites (see video). Empty nits are ovoid translucent and have a flat free ending. They can be differentiated from pseudonits due to seborrheic dermatitis, which are whitish, easily detachable,
amorphous structures. In addition, *in vivo* morphologic details of nits, nymphs, and adults lice can be appreciated using this technique.
References:


Figure 1- *Pediculosis capitis*. A- Empty nit: translucent, ovoid structure, with a flattened free end attached to the base of the hair shaft B- Louse feeding on blood from the scalp. 20 X magnification (mobile phone camera (iPhone 8, Apple Inc, CA, USA; X2) attached to handheld dermoscope (DermLite DL4; 3Gen, USA; X10)