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Head lice in African children

The recent observation of an African child affected by *Pediculus humanus capitis* infestation prompted us to review the epidemiology of this infestation in subjects with pigmented skin, in particular African patients. This decision was taken because, in collective dermatological imagination, head lice is considered as a rare or very rare infestation in African subjects.

The patient was a 2-year-old boy, who was admitted to our Dermatology Unit because of pruritus on the scalp. The boy was born in Ethiopia and was adopted by an Italian family two months before our observation. His foster parents stated that he was in good general health and was not in therapy with systemic drugs. Furthermore, his laboratory examinations, performed just a few weeks before our observation, were within normal ranges or negative.

Dermatological examination revealed some adults and nits of *Pediculus humanus capitis*. Some signs of scratching and pustular folliculitis were also visible. Bacteriological examinations were positive for *Staphylococcus aureus* and *Escherichia coli* (according to antibiogram results, both bacteria were sensitive to amoxicillin). Mycological examinations were negative.

The patient was successfully treated with a foam containing pyrethrins and piperonyl butoxide; oral amoxicillin was also used for ten days. The follow-up (three months) was negative.

To our knowledge, the first epidemiological survey on head lice prevalence in Sub-Saharan Africa was published in 1982. In two schools in Accra (Ghana), 158 out of 319 pupils (49.5%) were affected by head lice. The infestation rates were higher in the school of lower socio-economic status. Crowding, communal use of toilets and hair plaiting were considered as predisposing factors.[1]

Epidemiological-clinical surveys were subsequently carried out in several countries: Ethiopia,[2-5] Niger,[6] Mali,[7] Gambia,[8] Sierra Leone,[9] Ivory Coast,[10] Benin,[11] Nigeria,[12-17] Kenya [18] and Tanzania.[19] Results of these studies are interesting. In fact, except for Ethiopia, where head lice prevalence has been always high, ranging from 31.2%[5] to 55.4%[3] to 65.1%,[4] in several other countries it is low: 4.7+/-1.4% in Mali,[7] 5.3% in Tanzania,[19] 5.7% in Niger,[6] 6.8% in Sierra Leone,[9] 8% in Kenya.[18] Rather surprising are the results of some surveys carried out in Nigeria, where the prevalence of head lice ranged from 0.7% [16] to 28.6% [15] (Table I).[1, 3-10, 12, 14-19] Predisposing factors of head lice in Sub-Saharan Africa are poor household hygiene,[2, 5, 10, 14] overcrowding,[9, 12, 14] sharing of washing facilities, beds and combs,[9, 10, 18] poor personal hygiene,[2, 5, 14, 18] malnutrition [19] and long hair.[8, 14, 18] According to most of these studies, head lice is more common in females.[5, 6, 8-10, 14, 16, 17] The greatest concern of head lice infestation in African children is that these insects can be vectors of pathogenic microorganisms. In 2011, it was demonstrated, by means of molecular techniques, the presence of *Bartonella quintana* in head lice of subjects living in different regions of Ethiopia. *B. quintana* was found in 19 (7%) genotype C head lice.[20] *B. quintana* is the aetiological agent of trench fever, bacillary angiomatosis, endocarditis, lymphadenitis and sepsis.[20] By means of real-time and traditional PCR, the presence of *B. quintana* DNA was detected in head lice collected from three locations in Senegal: *B. quintana* DNA was identified in 19 lice (6.9%) collected from 7 patients in Dakar. *B. quintana*-positive lice collected from three subjects were identified as clades C and A.[21] Furthermore, *B. quintana* DNA was identified in 5 out of 274 (2%) patients with fever of unknown origin and in 2 out of 71 (3%) head lice specimens collected from the same villages in Senegal.[22] The prevalence of *B. quintana* in lice in nine African countries was studied. The authors tested 616 head lice using real-time PCR targeting intergenic spacer region 2 and specific *B. quintana* genes. *B. quintana* DNA was found in 2% of head lice. The authors suggested that head lice in Africa can be infected by *B. quintana* when patients live in poor economic conditions and are also exposed to body lice.[23] In 2015, in the Democratic Republic of Congo, a fourth mitochondrial clade, clade D, comprising head and body lice, was described. This clade can be the vector of *B. quintana* and *Yersinia pestis*.[24] Kempf *et al.*,[25] in 2012, detected *Acinetobacter* spp. in 54 out of 115 (47%) head lice. The recA gene was sequenced for 60 of the *Acinetobacter* spp. and 67% were positive for *A. baumannii*. Genotype 1 was more frequently retrieved.[25] *A. baumannii* is widespread in nature (water, soil, vegetables, skin of healthy subjects); however, it can cause wound infections, meningitis, pneumonia and sepsis.[25] Furthermore, a recent document by

TABLE I.—*Prevalence of head lice in Sub-Saharan Africa.*

Authors, year	Country	Prevalence (%)
Kwaku-Kpikpi,[1] 1982	Ghana	49.5
Ogunrinade *et al.*[12] 1984	Nigeria	1.5*/5.7**
Arene,[6] 1985	Niger	5.7
Chunge,[18] 1986	Kenya	8
Lindsay *et al.*,[8] 1989	Gambia	28.8
Dagnew *et al.*,[3] 1991	Ethiopia	55.4
Gbakima *et al.*,[9] 1992	Sierra Leone	6.8
Mumcuoglu *et al.*,[4] 1993	Ethiopia	65.1
Ebomoyi,[14] 1994	Nigeria	3.7
Mahé,[7] 1995	Mali	4.7±1.4
Henderson,[19] 1996	Tanzania	5.3
Menan *et al.*,[10] 1999	Ivory Coast	18.5
Murgia *et al.*,[5] 2010	Ethiopia	31.2
Heukelbach *et al.*,[15] 2011	Nigeria	28.6
Okoh *et al.*,[16] 2013	Nigeria	0.7
Kalu *et al.*,[17] 2015	Nigeria	12

*Rural schoolchildren; **urban schoolchildren.

the European Survey on Carbapenamase-Producing Enterobacteriaceae (EuSCAPE) and the Antimicrobial Resistance Surveillance Network (Lars-Net) alerted about the increasing resistance of these bacteria to both carbapenems and colistin. Finally, also *Borrelia recurrentis* DNA was found in 23% of head lice from Ethiopian patients with relapsing fever.[26] In conclusion, head lice is not so rare in African children as commonly thought. In addition, these insects can be vectors of pathogenic bacteria. Head lice should not be underestimated in African children: careful examination, therapy and follow up must be performed.

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Mudi-chood in an Indian woman living in Italy

Mudi-chood, which means "heat of the hair" in Malayalam language, is an uncommon dermatosis resulting from the effect of moist oily hair (treated with coconut/Ayurvedic oils) staying in contact with the skin in a hot/humid environment.[1] It presents with skin colored or slightly hyperpigmented, well-defined, flat topped,