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ORIGINAL ARTICLE/ARTICLE ORIGINAL

Epidemiology of tinea capitis among school-age children in Meiganga, Cameroon



Épidémiologie des teignes parmi les enfants d'âge scolaire à Meiganga, Cameroun

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Received 11 January 2013; received in revised form 2 December 2013; accepted 18 December 2013

Available online 18 April 2014

KEYWORDS

Tinea capitis;
School;
Epidemiology;
Dermatophytes;
Cameroon

MOTS CLÉS

Teigne ;
Écoles ;

Summary Tinea capitis (TC) commonly called scalp ringworm is a worldwide concern and a public health problem in Africa. This study aimed at determining the epidemiologic profile of TC among school-aged children in the savanna zone of Cameroon. All children present at school during this study period, August 2011–July 2012, were examined for signs suggestive of TC. Children not registered at school were excluded from the study. Pathologic specimens were taken from suspected head lesions and cultured. Amongst the 4601 children, average age 10.7 ± 0.16 years, 377 presented with suggestive TC lesions giving a prevalence of 8.1%. The proportion of boys with TC was (63.7%) higher than in girls (36.3%) ($P \leq 0.05$). TC manifestations varied; small plaques of alopecia 59.26% were the most frequent. Communal living was the most incriminated risk factor. Three hundred and thirty six isolates were obtained in culture. The prevalence was significantly higher ($P < 0.05$) in age range between 8 and 12 years, followed by that between 13 and 15. The most prevalent isolate was *T. soudannense* 56.8%, followed by *T. rubrum* 29.2%. Only 6.0% of the isolates belonged to the genus *Microsporum*.

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Résumé Tinea capitis est une affection cosmopolite et elle constitue un véritable problème de santé publique en Afrique. Cette étude avait pour but de déterminer le profil épidémiologique de la teigne du cuir chevelu (TCC) en milieu scolaire dans la zone savane arborée du Cameroun. Nous avons, d'août 2011 à juillet 2012, mené une étude transversale à l'école primaire

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Épidémiologie ;
Dermatophytes ;
Cameroun

d'application de Meiganga et à l'école publique de Meidoukou. Tous les élèves présents pendant la période d'étude ont été examinés à la recherche de signes de teigne du TCC, les élèves absents ont été exclus. Les prélèvements de cuir chevelu et les cheveux ont été réalisés sur ceux qui en présentaient. Parmi les 4601 élèves, âgés de $10,7 \pm 0,16$ ans en moyenne, 377 avaient une TCC soit un prévalence globale de 8,1 %. La proportion était plus élevée ($p \leq 0,05$) chez les garçons (63,7 %) que chez les filles (36,3 %). La vie en famille était la plus incriminée des facteurs de risque. Trois cent trente six souches ont été isolées. La tranche d'âge comprise entre 8 et 12 ans étaient la plus infestée, suivi de celle entre 13 et 15. Les souches de *Trichophyton* ont été les plus fréquemment isolées avec *T. soudanense* 56,8 %, suivi de *T. rubrum* 28,2 %. Seules 6,0 % des espèces de genre *Microsporum* ont été isolées en culture.

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Introduction

Tinea capitis (TC) commonly known as scalp ringworm is a dermatophytic infection of the scalp caused principally by anthropophilic and zoophilic dermatophytes of the genus *Trichophyton* and *Microsporum* [8,10]. It represents 40–60% of superficial mycoses in sub-Saharan Africa and the World Health Organization (WHO) has classified it as the second dermatologic infantile infection in developing countries after pyoderma [11,16]. It is a worldwide concern and a public health problem in Africa. TC can either resolve spontaneously at puberty, or more over, can serve as a source of entry to other infections that result in more severe consequences [15,17]. The antifungal drugs active on dermatophytes are few and those that are currently used have few secondary effects, meanwhile the principal drawback in the treatment of TC is the high cost which is due to the long treatment duration. The frequency and etiological agents of scalp ringworm are sometimes determined by the sociodemographic and climatic characteristics of a given geographic region, and they vary with time [3,7,14,19,23–25]. Although

a few previous studies have been carried out in Cameroon [7,15,16], it might be worthy to mention that since the first study on TC by Cochet et al. in 1957 [7], no study has been carried out in the savanna zone (northern part) of the country till date. We then undertook a study on the epidemiologic profile of tinea capitis in the school milieu of the Meiganga health district in the Adamawa region of Cameroon.

Materials and methods

Study site and population

This transversal study was carried out between August 2011 and July 2012 in Meiganga, chief town of the Mbere subdivision, 144 km from Ngaoundéré; chief town of the Adamawa region of Cameroon (Fig. 1). There are 59 villages in the Meiganga health district, which includes Meidoukou located 18 kilometers away from Meiganga. Meiganga is in the savanna zone of Cameroon; the climate is tropical with temperatures above 21 °C all year round. The population of Meiganga is estimated at 71,000 inhabitants, but the



Figure 1 Geographic location of the Meiganga in Adamawa region of Cameroon [30].

Localisation géographique de la ville de Meiganga dans la région de Adamawa au Cameroun [30].

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