



Risk factors for Buruli ulcer in Bankim, a newly endemic area in Cameroon

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In Cameroon, only one endemic area had been described since 1969, in the Nyong River basin between Ayos and Akonolinga in the central region. Five years ago, clinically suspected BU cases were reported for the first time in the district of Bankim, a rugged land in north-western Cameroon. Interestingly, a dam was built in this region in 1989, creating an artificial lake of 3.2 billion m³ capacity. Large amounts of farmland were flooded and several villages relocated. Since 2007, around 75 cases of BU were reported each year from Bankim, for a population close to 70000 inhabitants. In 2007, a case-control study on BU in Akonolinga suggested a protective role of the use of bednets. In order to verify and further investigate this result, a case-control study was conducted in Bankim from the 1st June to 17 August 2009. This study also aimed at investigating other risk factors for BU in a savanna setting. Each of the 79 included cases was matched with two controls of the same sex, age and village. Data analysis was performed using conditional logistic regression.

Résumé en anglais

Multivariate analysis confirmed that using a bednet everyday was a protective factor against BU (Odds-Ratio(OR)=0.4 ; 95% Confidence Interval(95%CI)=[0.2-0.9]). Few people had good quality bednets, and thus investigations on impregnation or holes remained inconclusive. Taking proper care of wounds was a strong protective factor (OR [95%CI]=0.1 [0.04-0.4]), providing confirmation for another association identified in the Akonolinga study. Surprisingly, growing cassava was a protective factor (OR[95%CI]=0.4 [0.2-0.9]). We hypothesize that this protection could result from a lower exposure to disease on the savanna farmland where Bankim farmers usually plant cassava or from a diversified nutrition of farmers and their families. Increased risks were associated with Contact not only with the dam swampy area but also with the other River in region and water bodies neighboring houses and environment exposures such as not wearing shoes during washing clothes or household activities (OR[95%CI]=7.7 [1.4-42]). Reporting skin lesions due to itching after insect bites was significantly and independantly associated with disease (OR[95%CI]=2.7 [1.3-5.5]), but this association might result from memory bias. In conclusion, this study shows for the second time that using a bednet is associated to a significant protection against BU. This finding advocates for further studies on transmission of BU focus on dwellings and neighboring water bodies. Communication regarding protection methods should now be provided to local population.

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