

Validation of a clinical score for the diagnosis of *Mycobacterium ulcerans* (Buruli Ulcer) infection in Cameroon

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Context

Early diagnosis of Buruli Ulcer (BU) improves its management and limits any sequelae. However, access to PCR diagnostics remains limited. This study aimed to validate a clinical diagnostic score (CDS) and assess its acceptability by patients and caregivers.

Methods

We included patients with chronic wounds in Akonolinga, Ayos and Bankim. For each participant, nurses and doctors separately completed the CDSCDS composed of 11 parameters and the PCR was carried out at the Pasteur Center in Cameroon. We performed focus group discussions and individual interviews to assess the acceptability of CDS by patients and caregivers, and the psychological status of patients (MINI and QSCPGS tests).

Results

Between January 2018 to October 2019, 340 CDSs were administered. Among the patients, 139 (38.2%) had positive PCRs and 225 (61.8%) negative PCRs. The average age was 26.5 years (1-85 years) and 35.9% were women. CDS achieved sensitivity and specificity of 69.3% (60.5% - 77.2% CI) and 94.1% (89.7% - 97.0% CI) respectively compared to PCR. The positive (PPV) and negative predictive values were 88.9% (81.0% - 94.3% CI) and 81.8% (75.9% - 86.7% CI), respectively.

The correlation coefficient between Doctors and Nurses was 0.8955.

We observed a high acceptability of CDS in patients and caregivers. Among the patients, 36% (N = 73) suffered from depression, 25% suicidal urges and 75% (N = 55) felt stigmatized and / or discriminated against

Conclusions

The UB CDS detects more than 70% (PPV) of UB patients confirmed by PCR (WHO recommendation). The good performance of nurses and the high acceptability of the CDS make it a major tool for decentralized management of UB, thus limiting the sequelae and its psychological impact.

The Clinical Diagnostic Score is an effective tool that can be easily used by health personnel for the adequate management of BU in rural areas.