ABSTRACT

The diagnosis of leprosy is usually difficult when the bacteriological and histological studies fail to demonstrate the presence of the *Mycobacterium leprae.* A literature search was carried out in order to find methods that could refine the final diagnosis. Among the methods described, the genetic amplification technique with the polymerise chain reaction (PCR) has been used to identify a great variety of microrganisms, specially those that cannot be cultured "in vitro" or those which have slow-growth, such as *Mycobacterium leprae.* In order to standardize this PCR and DNA extraction method using phormalin-fixed and paraffin-embedded tissues, 128 samples of skin lesions from previously untreated patients with several forms of leprosy (73 paucibacillary and 55 multibacillary), from the files of the Anatomic Pathology Laboratory of the Hospital Universitário Antônio Pedro of the Universidade Federal Fluminense, were studied. All the slides with HE and Wade staining were examined again and Ridley and Jopling's (1962) classification was used. We used, respectively, fragments of lepromatous leprosy skin lesion and fragments of normal skin, as positive and negative controls for the PCR method. Modified Cook's (1994) PCR protocol was used with amplification of groEL gene. β-actin initiator with human DNA extracted from peripheral blood leucocytes was to check for the presence of PCR inhibitors. A satisfactory result with 85% positivity in paucibacillary lesions and 78% in multibacillary was obtained. Our data indicate that PCR is an important tool in the work-up of leprosy, mainly in its paucibacillary presentation.