

**OSTEOARTHRITIS CLINICAL EVALUATION IN PATIENTS TREATED  
WITH PERUÃBE BLACK MUD, CHEMICAL AND RADIOLOGICAL  
CHARACTERIZATION AND ESTABLISHMENT OF GOOD PRACTICES  
PROTOCOLS FOR THE PELOID OBTAINMENT AND USE**

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Mudtherapy is the use of peloid (sludge, saline slime and mud) for therapeutic purposes. Although widely used worldwide its therapeutic mechanisms are not fully understood, especially considering the different origins and compositions of the used materials. Several hypotheses have been raised in the attempt to clarify such mechanisms. Peruãbe Black Mud (PBM) has traditionally been used in the treatment of osteoarthritis of the knee, which is one of the pathologies of high prevalence and great impairment of the functional capacity of the patients, through applications of the peloid in its natural form. This study intends to verify the therapeutic efficacy of mud, after undergoing a process of decontamination and maturation in marine water, in patients with knee osteoarthritis, as well as to make a comparison between the therapeutic effects of the PBM matured and that sterilized by gamma radiation after maturation. Patients aged between 30 and 85 years, divided into two groups of 20 and 21, respectively, were followed up for a period of 15 weeks. The method of observation was the double blind. The evaluation was based on subjective information collected by the WOMAC and SF36 questionnaires as well as X-ray examinations. Simultaneously, analyzes of the chemical, radiological and microbiological composition of the PBM were carried out, aiming at a systematized knowledge of the characteristics of the peloid in relation to possible deleterious effects on human health. X-ray fluorescence, neutron activation analysis, gamma spectrometry, elemental analysis, cooling kinetics studies and reduction potential were used to perform these characterizations. The results obtained allow us to conclude that PBM presents high levels of Si and S and low levels of Ca, Mg and radioactive elements. None of the samples matured or irradiated after maturation showed contamination by total coliforms, thermally tolerant coliforms or staphylococcus aureus. The results indicate that there was a decrease in WOMAC and SF36 questionnaire scores for patients who completed the treatment.

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