Objective: To evaluate the stage of maturation and the metabolism of neurogenic heterotopic ossification by using SPECT/CT.

Methods: A total of 12 medical records of patients with spinal cord injury, all of them classified according to the ASIA protocol (disability scale from the American Spinal Injury Association) in complete lesion (A) and partial lesions (B, C and D) and registered at the Laboratory of Biomechanics and Rehabilitation of the Locomotor System, were submitted to SPECT/CT evaluation. Results: Sixteen hips with heterotopic ossification observed in X-ray were studied and only two (12.5%) had high osteoblastic activity. Five hips showed medium activity, three (18.75%) low activity and six (37.5%) did not present any activity detected by SPECT/CT.

Conclusion: SPECT/CT helps to determine which patients have a greater risk of relapse after surgical resection, proving to be a useful imaging study in preoperative evaluation that can be used to determine the postoperative prognosis of these patients. Level of Evidence III, Investigating a Diagnostic Test.

Keywords