BACKGROUND AND AIMS: Nodal involvement is still one of the most important prognostic factors in the management of cutaneous melanoma. The selective sentinel lymph node biopsy has become the elective technique in staging this tumour. The use of isotopic tracer is the gold standard to detect and biopsy the sentinel node. Some structural limitations, such as the need of Nuclear Medicine Department, do not allow a wider diffusion. So, some different methods using non-isotopic tracers have been developed. One of these is the use of ferromagnetic tracers. The aim is to present the preliminary results of a study to validate the use of ferromagnetic tracer to detect the sentinel node in cutaneous melanoma.

PATIENTS AND METHODS: A non-inferiority study has been designed to compare isotopic and ferromagnetic tracers (IMINEM study; NCT03449615). The total sample is 186 patients, and 51 of which are presented in this work. In four cases, technical problems with probes did not allow an adequate register, so actual analysis was done with 47 cases. Clinico-pathological variables, data obtained from the sentinel biopsy procedure using isotopic and ferromagnetic tracer simultaneously, and several data related to the concordance between both methods are recorded and analyzed as well. A descriptive and comparative studies between methods are done. Differences between cases with primary melanoma located in extremities against trunk and head and neck are analyzed.

RESULTS: Mean isolated sentinel nodes were 1.96 with the isotopic tracer and 1.94 with the ferromagnetic tracer. When differential analysis due to location was done, in limb cases the mean was 1.75 and 1.64 respectively and in trunk, head and neck cases, 2.26 and 2.37, respectively. Globally, at least a sentinel node was detected in 97.8% of cases (46/47) with isotopic tracer and 95.7 % with ferromagnetic tracer (45/47), with a 6.4 % discordant rate (3/47). Analysis of record activity registered during the procedure showed a potential higher discriminative power for the two firsts nodes, when more than two sentinel nodes are identified, with the ferromagnetic method than with the isotopic one.

CONCLUSIONS: Ferromagnetic detection of sentinel node in melanoma seems to be a suitable technique, although we should wait until recruitment is complete before achieving final conclusions.