

INFLUENCE OF IMMOBILITY ON BONE MINERAL DENSITY

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The compartmental evaluation, in paraplegic subjects, about the reduction of bony density in consequence of immobility.

In our study, twenty-five subjects paraplegic males have participated; these divided in two groups in connection to the immobility time: the first one composed by 13 subjects with spine injury for less than ten years; the second composed by 12 subjects with lesion for over ten years. For each subject we carried out the DEXA analysis's for the measurement of the bony density (BMD g/cm²): total body, femurs and L1-L4 lumbar segment. The reference's parameter has been the T-Score.

Table 1 (*) shows BMD and T-score values of Total Body and segment L1-L4. The normalcy of the mean values of T-score is underlined in the two groups, to exception of the second group T score Total Body, in which we did find osteopenia. In the Table 2 (*) we compared T-score values of the femur and the right and left neck femur between two groups. The right and left neck femur T-score values, show that the first group starts already with a middle condition of osteopenia.

The BMD, total body and segment L1-L4 T-score values of two groups are regular, unlike the values of the right and left whole femurs T-score that show a serious state of osteopenia in the first group and of osteoporosis in the second. The statistic analysis of our data shows that there isn't any correlation among the number of years from the lesion and the loss of bony mass (pictures 1-2); in fact, already in the group of subjects immobilized for less than ten years, there is a fast and local important reduction of bony density. This data confirm the importance of a timely therapeutic intervention through a diet rich in calcium and an appropriate pharmacological therapy for the maintenance of bony structure and prevention of the fractures.

(*) The tables will be shown during the exhibition.