always expressed as the percentage of the value of the healthy side and plotted on the graph.

Results

1) At the initial measurement 83.3 percent of cases of Legg-Calvé-Perthes' disease showed decreased value (the counted value ranging from +22.0% to −48.1%), whereas in the cases of transient synovitis 81.5% of them showed increased uptake (ranging from +56.8% to −22.2%).

2) Sequential changes of radionuclide uptake: In the cases of transient synovitis (most of them were examined with ^{99m}Tc-P) the increased value at initial period gradually decreased to the level of the healthy side during 6 months. All of the cases showing increased ^{87m}Sr uptake developed to coxa magna. The cases of Legg-Calvé-Perthes' disease in which ^{99m}Tc-P was used, during 7 to 12 months after the onset the counted value had decreased and then increased. On the contrary, counts in the cases in which ^{87m}Sr was used showed initial increase during 2 to 4 months after the onset, and fluctuated for about 6 months in increased side, and then decreased again. Therefore, there seems to be difference concerning uptake between these two kinds of radionuclides.

3) It is concluded that this method will have the possibility of making differential diagnosis and prognosis in early stage of observation hip syndrome. However, it should be always taken into consideration that at which stage of the disease this examination is performed.

Bone Scintigraphy on Bone Graft Patients with ^{99m}Tc-EHDP

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Scince the pattern of bone scintigraphy on bone graft patients has not been clear and reports were rare, we conducted a study of serial bone scintigraphy on 22 patients who had bone graft into the mandiublar defect from their own iliac bones and evaluated the usefulness of bone scintigraphy on bone graft patients. Preliminarily, to identify the pattern of bone scintigraphy on traumatic patients, either accidental or iatrogenic, serial bone scintigraphy on 30 mandibular fractured patients and 11 patients who had a plastic operation on the deformed mandible, were also performed.

Results

Serial bone scintigraphy on 41 patients suffering from mandibular trauma revealed that abnormal uptake was often seen very early and usually seen by 7th day after trauma. The abnormal uptake increased its intensity by two or four months and decreased gradually. Usually, by one or two years after trauma, the abnormal uptake diminished its intensity and changed to normal.

Such pattern of bone scintigraphy after trauma as above was seen on bone graft cases at the junction between mandible and grafted bone. The uptake by the transplanted bone itself usually appeared between two weeks and two months after the graft and was always seen after two months, scintigraphically.

Then, the intensity of the uptake by the transplanted bone increased gradually and became more than normal, followed by gradual decrease to normal by one or two years after graft. On a case which transplanted bone failed to bear transplantation, bone scintigraphy showed a defect at the transplanted bone, at 7 months after graft. Roentgenographic examination also showed absorption of the grafted bone. Another case which showed highly abnormal uptake at two years after graft, revealed to have chronic osteomyelitis of the transplanted bone.

Scince, as bove cases, a case which as a different scintigraphic pattern as usual must have some troubles on its healing course, bone scintigraphy on bone graft patients is useful to evaluate their healing course and to estimate whether healing is complete or not.