

clide bone scanning was underwent.

We reported three phase bone scintigraphic findings in 13 patients (6 men & 7 Women; mean age 47 year) who were referred from January 1988, to March 1990, for possible RSDS. Associated conditions were cerebral infarction (3 cases), trauma (2 cases), lung cancer (1 case), lymphoma (1 case) and idiopathic causes (6 cases).

1) On delayed image, all patient had diffusely increased juxtaarticular activity and on radionuclides angiograms and blood pool images, 11 patients revealed diffusely increased activity.

2) In 4 cases, follow up three phase bone scintigraphy with corticosteroid therapy revealed much regressed discrepancy in both sided activities and nearly normalisation of activities.

## 21. Relationship of Chemotherapy and Hot Skull on the Radionuclide Bone Scans in Cancer Patients

C.S. Kim, R. Abello, E.E. Kim, D. Podoloff  
L. Lamki and T.P. Haynie

University of Texas

M.D. Anderson Cancer Center, Houston, TX

Diffusely increased uptake of bone imaging agents in the skull (more than cervical spine activity) had been reported in patients with hyperparathyroidism, and breast and prostate cancers under cytotoxic therapy. To understand the significance of the "hot skull", we have followed 32 cases for more than 1.5 years. Serial whole body bone scans in every 2~6 months have been obtained after the intravenous injection of 20 mCi  $^{99m}\text{Tc}$ -MDP.

We have graded the hot skull into 3 categories in relation to spinal and iliac ala activities. Hot skulls were observed significantly more in white female patients with breast cancer and all except for one were above 40-year old (peak age: 60~69). The course of hot skulls was progressive (17), stable (13) and improved (2). Chemotherapy was not related to 19 cases but seemed to aggravate the course of hot skull in 7 cases. In 5 cases with both hot skull and

kidney, chemotherapy was related to only hot kidney. Others had diffuse skull metastases (2), marked hyperostosis (3) and sickle cell anemia (1). The level of serum alkaline phosphatase was not correlated with the grading of the hot skull but significantly increased in the cases with progressive courses.

In conclusion, although it may aggravate changes in cancer patients, chemotherapy does not induce hot skull on the radionuclide bone scan.

## 22. 강직성척추염에서 $^{99m}\text{Tc}$ -MDP 골스캔의 임상적 의의

서울의대 내과

김덕윤 · 김상은 · 이범우  
정준기 · 이명철 · 고창순

강직성척추염은 척추전장에 걸쳐 활막관절을 침범하여 염증성강직을 일으키는 질환으로 구간관절 뿐만 아니라 말초관절도 침범하며, 이 질환에서 가장 흔히 침범되는 천장골관절은 그 해부학적 특성으로 염증 등의 병변이 있을 경우 임상 및 방사선 소견상 정확한 진단과 평가가 어려워 골스캔에 의한 SIS ratio (Sacroiliac joint/sacrum ratio) 측정이 이 질환의 조기진단에 유용한 것으로 보고되었다.

이에 연구자들은 강직성척추염환자에서  $^{99m}\text{Tc}$ -MDP 골 스캔을 시행하여 ROI (region of interest) 방법으로 SIS ratio를 측정하여 New York criteria에 따른 천장골관절의 방사선상 변화정도(Grade 0-IV)와 비교하여, 그 임상적 의의와 질병의 활동성에 따른 골스캔의 변화양상을 관찰하였다. SIS ratio의 정상범위는 한국 정상성인 65명을 대상으로 측정하여 설정한 기준을 사용하였고 골스캔상 주로 침범되는 관절과 그 양상에 대한 분석을 통해 다음과 같은 결과를 얻었다.

1) 대상환자는 52예로서 남자 51예, 여자 1예였고 평균연령은 29세(17~62세)였으며 HLA-B27 및 CRP양성율은 각각 96%, 94%였다.

2) 방사선상 Grade 0-III(38예)의 경우 SIS ratio는 우측  $1.21 \pm 0.13$ , 좌측  $1.20 \pm 0.17$ 로 정상범위(우측  $1.06 \pm 0.07$ , 좌측  $1.05 \pm 0.08$ )보다 높았고( $p < 0.05$ ) 각 Grade별 SIS ratio도 모두 증가되었으나, Grade IV(14예)에서는 우측  $1.05 \pm 0.15$ , 좌측  $1.01 \pm 0.2$ 로