

각각의 SPECT 영상을 심첨부, 전부, 전저부, 저부, 하부, 전중격부, 하중격부, 전외측부, 후외측부의 9개의 분절로 나누어서 관류 결손 부위를 관찰하였고, 이들의 극성범위 지도를 분석하였다.

총 126개의 분절 중 운동부하시 39부위에 관류결손이 있었으며 이중 6개의 분절은 안정시 재분포를 보였다. 그리고 안정시 재분포가 일어나지 않았던 33개의 분절중 T1-201 재주사후 13분절(39%)에서 재관류를 관찰할 수 있었으며 20개 분절은 관류가 개선되지 않았다.

따라서 T1-201 재주사영상을 통해 심근괴사로 진단되었던 부분중 살아있는 심근을 더 발견할 수 있었다.

34. Reinjection Imaging and 24-hour Delayed Imaging after reinjection for Identification of Viable Myocardium

**Hee Seung Bom, Ji Yeul Kim
Joo Hyung Park, Young Keun Ahn
Jong Choon Park and Jung Chae Kang**

*Department of Nuclear Medicine,
Chonnam University Medical School*

It was known that conventional stress-redistribution imaging was not adequate for detection of severely ischemic but viable myocardium. Albeit the gold criteria of viable myocardium is the presence of metabolism which can be detected by PET, reinjection technique was reported to be able to identify most, not all, of viable myocardium.

Because reinjection imaging is performed immediately after redistribution imaging, an additional redistribution could be happened if we follow the patient longer. To prove the guess authors performed the additional delayed imaging 24 hours after reinjection of ^{201}Tl .

Subject patients were 20 ischemic heart disease patients who showed irreversible perfusion defect (s) on standard pharmacologic (dipyridamole) stress-redistribution images. Immediately after redistribution images were obtained, 37 MBq thallium was injected at rest, and images were reacquired at 10 minutes and 24 hours after reinjection. Four sets of

images (stress, redistribution, reinjection, and delayed images) were then analyzed qualitatively by three independent physicians. Left ventricle was arbitrarily divided into 10 segments (anterior, septal, inferior, and lateral walls in short axis image, anterior, apical, and inferior walls in vertical long axis image, septal, apical, and lateral walls in horizontal long axis image). Myocardial uptake was divided into 4 grades (0 for absent, 1 for severely reduced, 2 for moderately reduced, 3 for suspiciously reduced, and 4 for normal uptake).

There were 45 irreversible perfusion defects in 20 subject patients, of which 21 (46%) showed improved thallium uptake after reinjection. Among these 21 segments 2 demonstrated further improvement of uptake on 24-hour delayed images. Of the 24 regions determined to have persistent defects after reinjection, 10 (41%) showed improved uptake on delayed images. Therefore improved thallium uptake on 24-hour delayed images was demonstrated at 12 (26%) of total 45 regions.

In conclusion, in addition to reinjection imaging, 24-hour delayed imaging after reinjection was also helpful to identify severely ischemic but viable myocardium.

35. Comparison of ^{99m}Tc -MIBI Myocardial Uptake at Rest with Reinjection and 24-hour after Reinjection Images of ^{201}Tl

**Hee Seung Bom, Ji Yeul Kim
Joo Hyung Park, Young Keun Ahn
Jong Choon Park and Jung Chae Kang**

*Department of Nuclear Medicine,
Chonnam University Medical School*

Clinical role of ^{99m}Tc -MIBI myocardial scintigraphy in the diagnosis of coronary artery disease (CAD) is now well accepted, however, the role of it in the identification of viable myocardium in patients with chronic CAD has not yet been clarified. To determine the usefulness of rest-injected ^{99m}Tc -MIBI

scan as a marker of myocardial viability, the regional uptake of this agent at rest was compared with that of ^{201}Tl on reinjection and 24 hours after reinjection images.

Subject patients were 10 chronic CAD patients who showed irreversible perfusion defect(s) on standard pharmacologic (dipyridamole) stress-redistribution images. Immediately after the redistribution images were obtained, 37 MBq thallium was injected at rest, and images were reacquired at 10 minutes and 24 hours after reinjection. After then 740 MBq $^{99\text{m}}\text{Tc-MIBI}$ was injected, and 1 hour later rest MIBI myocardial imaging was performed. Five sets of images (stress, redistribution, reinjection, delayed images of thallium, and rest image of MIBI) were then analyzed qualitatively by three independent physicians. Left ventricle was arbitrarily divided into 10 segments (anterior, septal, inferior, and lateral walls in short axis image, anterior, apical, and inferior walls in vertical long axis image, septal, apical, and lateral walls in horizontal long axis image). Myocardial uptake was divided into 4 grades (0 for absent, 1 for severely reduced, 2 for moderately reduced, 3 for suspiciously reduced, and 4 for normal uptake). If there was any improvement of thallium uptake at the regions, it was regarded as viable. The result was summarized at the following table.

		$^{99\text{m}}\text{Tc-MIBI}$	
		viable	not viable
^{201}Tl	viable	13	3
	not viable	4	0

In summary, there was a discordance between ^{201}Tl and $^{99\text{m}}\text{Tc-MIBI}$ scan for assessment of viable myocardium in chronic CAD patients.

36. 당뇨병 환자에서 디피리다몰 부하 $^{99\text{m}}\text{Tc-MIBI}$ 심근 SPECT와 임상 소견의 비교

서울의대 내과

여정석 · 최창운 · 이동수 · 정준기
이명철 · 이흥규 · 이영우 · 고창순

허혈성 심질환 또는 심근경색의 발생이 흉통을 동반하지 않은 경우는 특히 당뇨병 및 신경 합병증이 원인인 경우가 많다. 디피리다몰 $^{99\text{m}}\text{Tc-MIBI}$ 심근 SPECT는 운동 부하 검사가 곤란하거나 또는 신경병증 때문에 답자 검사가 곤란 경우 시행하기 쉽다. MIBI 심근 SPECT에 보이는 허혈 또는 경색질환은 무통성인 경우에도 구혈 장애는 같은 정도로 일으킨다. 당뇨병 환자에서 무통성 심질환의 빈도와 디피리다몰에 대한 반응 특성, 그리고 허혈성 심질환 또는 심근 경색을 예측할 수 있는 임상 지표를 찾기 위해 1989년 2월 부터 1991년 12월 까지 디피리다몰 부하 MIBI 심근 SPECT를 시행한 당뇨병 환자 39명의 병력을 조사하였다. 대조군으로 1991년 1월부터 1991년 7월 까지 디피리다몰 부하 MIBI 심근 SPECT를 시행한 당뇨병이 없는 환자군 100명을 선정하였다. 관찰 결과는 다음과 같다.

1) 당뇨병이 있으면서 심근 허혈 또는 심근 경색이 있는 24명의 환자 중 5명 (20.8%)에서는 통증의 병력이 없었다.

2) 디피리다몰 부하에 대한 심근 반응을 비교하기 위해 당뇨, 고혈압이 없는 대조군 56명을 선정하였다.

(1) 디피리다몰 부하후 혈압의 강하 정도는 대조군이 수축기/이완기 각각 $13.25 \pm 7.78 / 14.11 \pm 9.07 (\%)$ 이었고 심근 질환이 있는 당뇨병 환자에서 $14.06 \pm 7.49 / 15.74 \pm 8.78 (\%)$ 이었다.

(2) 심박동수의 증가 정도는 대조군에서 $33.83 \pm 14.00 (\%)$, 환자군에서 $24.32 \pm 13.93 (\%)$ 로 두 군 사이에는 통계적으로 유의한 차이가 있었고 ($p < 0.01$), 대조군의 1 표준편차 이하인 경우가 26명의 당뇨병 환자 중 14명 (38.9%)에서 관찰되었다.

(3) 흉통을 포함한 흉부 불편감은 당뇨가 아닌 대조군에서 92명 중 37명 (40.2%), 당뇨병 환자군에서는 39명 중 12명 (30.8%)에서 있었다.

3) 심근 허혈 또는 심근 경색이 있는 환자 중에서 당