

## The predictive value of $^{201}\text{Tl}$ rest-redistribution and $^{18}\text{F}$ -fluorodeoxyglucose SPECT for wall motion recovery after recent reperfused myocardial infarction

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$^{201}\text{Tl}$  and  $^{18}\text{F}$ -FDG are useful for acute myocardial infarction (MI) assessment. The goal of this study was to compare their predictive value for wall motion recovery in the culprit area after a recent reperfused MI using SPECT technique. **Methods:** Forty-one patients (mean age:  $56 \pm 12$  years) were included, 81% of them male; all were studied within 1–24 days post MI. They underwent angioplasty in 27 cases (12 primary); bypass grafting in 10 cases and successful thrombolysis in 4. SPECT  $^{201}\text{Tl}$  injected at rest and redistribution (R-R) and also  $^{18}\text{F}$ -FDG, were performed on different days. Processed tomograms were interpreted blinded to clinical or angiographic data. Segmental wall motion assessed with echocardiography at baseline was compared with the 3 month follow up. **Results:** Sensitivity [Confidence Interval] for  $^{201}\text{Tl}$  R-R was 74.6% [60.5–84.5], for FDG it was 82.1% [70.8–90.4]; specificities were 73% [64.3–80.5] and 54.8% [45.6–63.7], respectively.  $^{18}\text{F}$ -FDG tended to be more sensitive than  $^{201}\text{Tl}$  R-R, but the latter was more specific ( $p < 0.0004$ ). Both  $^{201}\text{Tl}$  R-R and  $^{18}\text{F}$ -FDG presented high negative predictive value ( $p$ : ns). **Conclusion:** In recent MI, SPECT  $^{201}\text{Tl}$  R-R is a valuable and widely available technique for viability detection, with similar sensitivity and significant better specificity than SPECT  $^{18}\text{F}$ -FDG.

**Key words:**  $^{201}\text{Tl}$ ,  $^{18}\text{F}$ -FDG, myocardial infarction, viability, SPECT