

게이트 심근 SPECT

Gated Myocardial SPECT

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Abstract

The advent of gated myocardial SPECT has achieved one - stop imaging in coronary artery diseases. Perfusion at rest and stress is measured and quantified using software. Myocardial contractility can be determined by quantifying the global function or regional contractility markers such as wall motion or systolic thickening. Excellent reproducibility was shown for ejection fraction and left ventricular volumes and mass. Improvement of the ejection fraction by 5% or a decrease of volumes by 10 ml can be used as criteria on a post - operative or follow - up scan. To achieve post - operative global improvements, an increase of systolic thickening > 15% of regional segments is needed. Even the prolonged transient stunning can be detected on gated myocardial SPECT as one gated SPECT indicates the perfusion and contractility of each segment. Low - dose dobutamine - challenged gated SPECT is feasible and is believed to parallel low - dose dobutamine echocardiography for determination of myocardial viability. Gated SPECT was also helpful to differentiate artifacts and for risk stratification of diabetic patients ; normal perfusion with abnormal function means a worse prognosis. Gated myocardial SPECT is mandatory if SPECT cameras have the capability of gating because it provides clinicians with information not only on diagnosis but also on prognosis, treatment strategy and risk stratification.

Keywords : Gated myocardial SPECT; Myocardial contractility; Myocardial perfusion

: SPECT; :

(single photon emission computed tomography ; SPECT)

SPECT

가

2001

500 , 1,000

0.5 SPECT ,

2 ,

1,000 20 SPECT

90%

Tc - 99m SPECT PACS
 가 가 () , ,
 10% 가 가 (1), 가
 가 (resource - based relative value scale ; RBRVS) (ambulatory payment classification ; APC) 가 TI - 201 가 60%
 11~34%가 가
 90%가
 Tc - 99m , 70%
 TI - 201 Tc - 99m MIBI(tetrofosmin) 5
 . TI - 201
 SPECT SPECT (ADAC labs, Milpitas, L.A.) AutoQuant
 5
 20 / / 17
 가
 가가 가
 SPECT 가
 0.6~0.8 ml/ /g 3~5 , Summed Stress Score(SSS)가
 50% (3). SSS가
 () 가
 , SSS가
 가 가 가 0.5%
 (4). 가
 SPECT (5).

가 5%(), 2
가 14 ml, 11 ml (6).
1. 가 , 가
가 . SPECT . SPECT 5%
가
SPECT 가 5%
가 .
가 .
tethering .
(stroke volume) ,
(ejection fraction) . QALY(Quality Adjusted Life Year)가 .
(cardiac output) . 가 가
SPECT 가 가
, MRI 가 가
SPECT .
2. SPECT 가 20
가 .
MRI SPECT 가
가 가 .
(50 kg 가) 가 , SPECT
가 . SPECT
가
() .
가가 . 2 가 SPECT

mm % SPECT 가

2 가 2 mm, SPECT (9). ,

20% . 가 ,

2 mm, 20% . ,

(7). SPECT

가 / SPECT SPECT

15% , SPECT

가 (8). (prolonged transient stunning) (10).

SPECT 가 SPECT

SPECT 10 , 1,000 가 , 가

3. 가 가 가

가 가 (11).

SPECT

(coupling)

(uncoupling)

SPECT

SPECT

가

가

가

가

가 가

/

4.

SPECT

24

TI - 201

SPECT

F - 18 fluorodeoxyglucose(FDG)

(positron emission tomography ; PET)

SPECT

(

(class I

IIa)

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(

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· ㉔

(12, 13).

가

FDG PET

가 가

1. 가 3

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(14).

가

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Tc - 99m - MIBI SPECT
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