

8.虚血性心疾患における心筋 SPECT による予後評価—拡張能低下例に対する MIBI washout による評価—  
**Prognostic evaluation by  $^{99m}\text{Tc}$ -MIBI washout rate in ischemic heart disease with decrease of cardiac diastolic function**

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**【Purpose】**The cardiac failure begins from decrease of diastolic ventricular function. Even if diastolic ventricular function decreased in ischemic heart disease, when mitochondrial activity is high, cardiac function would be improved. However, when mitochondrial activity is low, cardiac function would be not improved. The mitochondria synthesize ATP which is myocardial energy. Myocardial perfusion tracer  $^{99m}\text{Tc}$ -MIBI is held at the membrane of the mitochondria within a myocardial cells. The mitochondrial activity are evaluated quantitatively by washout rate of  $^{99m}\text{Tc}$ -MIBI. In Ischemic Heart Disease with decrease of diastolic ventricular function. Comparison of  $^{99m}\text{Tc}$ -MIBI washout rate between Group A (cardiac function : keep or / and improve after PCI) and Group B (cardiac function : decrease after PCI).

**【Patients】**Ischemic heart disease after PCI .All patients : 117 (effort angina 79, chronic myocardial infarction 34, acute myocardial infarction 3, effort angina+ chronic myocardial infarction 1).

**【Statistical analysis】** 1.Comparison of MIBI washout rate between group A and group B.

2. True positive rate (TPR) and false positive rate (FPR) by Receiver Operating Characteristic (ROC)Analysis.

**【Results】**1.Group A were lower significantly of MIBI washout rate than group B . (Fig.1)

2. MIBI washout rate ;cut off =20%, Sensitivity =70%,Specificity=65% ,Odds Ratio=4.333 (Fig.2)

**【Discussion】**Even if PFR is falling, with the case not more than MIBI washout rate is 20%, these patients keep the cardiac function or it improves. Therefor these results suggest that decrease of mitochondrial activity can be a factor of cardiac dysfunction. It is considered , in case of cardiac diastolic function decreased, mitochondria responsible for ATP production that become activated in order to improve or keep of cardiac function. It appears that decrease of PFR do not cause the immediately cardiac failure.

**【Conclusion】**Even though diastolic cardiac function is decreased, when MIBI washout rate is decline, there is a high possibility that cardiac function is keeping and/or can be improve.

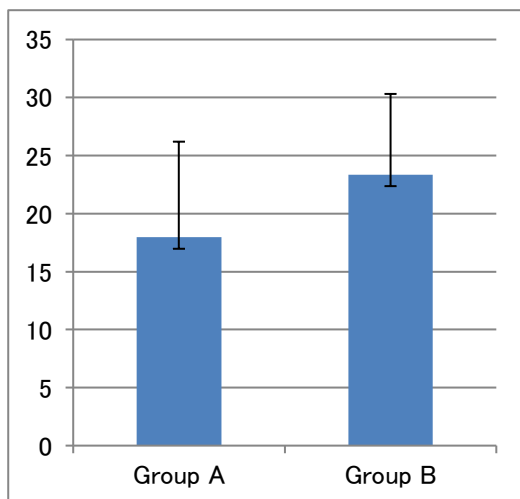


Fig.1 Fig.1 Comparison of MIBI washout rate between group A and group B. P=0.0019

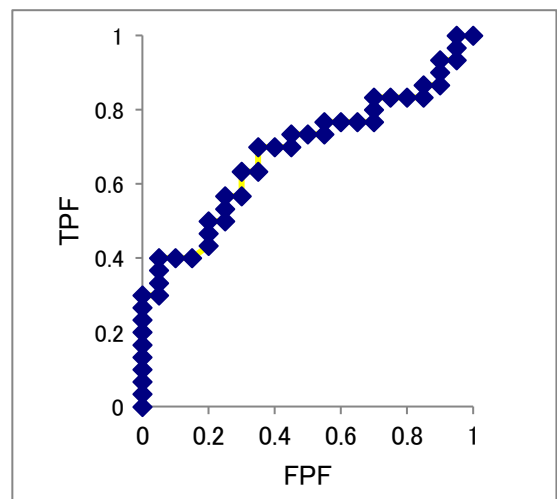


Fig.2 Receiver Operating Characteristic Analysis.