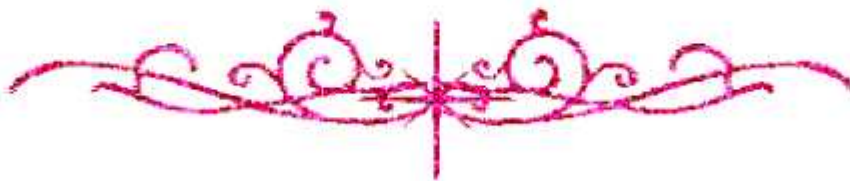


بسم الله الرحمن الرحيم





شبكة المعلومات الجامعية التوثيق الالكتروني والميكرو فيلم



جامعة عين شمس

التوثيق الإلكتروني والميكرو فيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
على هذه الأقراص المدمجة قد أعدت دون أية تغييرات



يجب أن

تحتفظ هذه الأقراص المدمجة بعيدا عن الغبار





Role of intracoronary adenosine in prevention of no reflow during Primary PCI in STEMI patients guided by MVO in CMR

Thesis

Submitted for Partial Fulfillment of MD Degree in Cardiology

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قَالَ

سَبِّحْكَ لَا إِلَهَ إِلَّا مَا عَلَّمْتَنَا إِنَّكَ أَنْتَ
الْعَلِيمُ الْعَظِيمُ

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List of Abbreviations

| Abb. | Full term |
|------------|--|
| ACC | American College of Cardiology |
| AHA | American Heart Association |
| AMI..... | Acute myocardial infarction |
| CA..... | Coronary angiography |
| CABG..... | Coronary artery bypass grafting |
| CAD | Coronary artery disease |
| CHF | Congestive heart failure |
| CKD | Chronic kidney disease |
| CMR..... | Cardiovascular magnetic resonance |
| EMVO..... | Early microvascular obstruction |
| ESC..... | European Society of Cardiology |
| FFR..... | Fractional flow reserve |
| FPP | First-pass perfusion |
| ICM..... | Ischemic cardiomyopathy |
| IJC | International Journal of Cardiology |
| IVUS..... | Intravascular ultrasound |
| LAD | Left anterior descending |
| LCX..... | Left circumflex |
| LMVO | Late microvascular obstruction |
| MGB | Myocardial Blush Grade |
| MI | Myocardial infarction |
| MO | Microvascular obstruction |
| MSI | Myocardial salvage index |
| MVO | Microvascular obstruction |
| PCI..... | Percutaneous coronary intervention |
| pPCI..... | Primary percutaneous coronary intervention |
| PSIR | Phase-sensitive inversion recovery |

List of Abbreviations Cont...

| Abb. | Full term |
|-------------|---|
| PTCA | Percutaneous transluminal coronary intervention |
| RCA | Right coronary artery |
| RCTs | Randomized controlled trials |
| STEMI | ST-elevation myocardial infarction |

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INTRODUCTION

Microvascular obstruction (MO) or no-reflow phenomenon is an established complication of coronary reperfusion therapy for acute myocardial infarction. It is increasingly recognized as a poor prognostic indicator and marker of subsequent adverse LV remodeling. Although MO can be assessed using various imaging modalities including electrocardiography, myocardial contrast echocardiography, nuclear scintigraphy, and coronary angiography, evaluation by cardiovascular magnetic resonance (CMR) is particularly useful in enhancing its detection, diagnosis, and quantification, as well as following its subsequent effects on infarct evolution and healing. MO assessment has become a routine component of the CMR evaluation of acute myocardial infarction and will increasingly play a role in clinical trials of adjunctive reperfusion agents and strategies. This review will summarize the pathophysiology of MO, current CMR approaches to diagnosis, clinical implications, and future directions needed for improving our understanding of this common clinical problem. The contribution of microvascular injury in causing anatomic myocardial “no-reflow” was first described in the 1970’s^[1, 2, 3].

CMR techniques for microvascular obstruction:

The advent of fast CMR techniques in the 1990’s facilitated the study of the temporal perfusion patterns within

Abstract

Background: Microvascular obstruction (MO) or no-reflow phenomenon is an established complication of coronary reperfusion therapy for acute myocardial infarction. It is increasingly recognized as a poor prognostic indicator and marker of subsequent adverse LV remodeling. Microvascular obstruction (MO) or no-reflow phenomenon is an established complication of coronary reperfusion therapy for acute myocardial infarction. It is increasingly recognized as a poor prognostic indicator and marker of subsequent adverse LV remodeling.

Results: There was no significant difference between two groups regarding TIMI and MBG score. There was a significant difference in myocardial salvage index and myocardium at risk with p value less than 0.001. Yet no increase in myocardial hemorrhage among the two groups. There was significant improvement in EF, LV mass and LV volumes in those who were given adenosine.

Conclusion: Adenosine improves no reflow on giving as a prophylactic drug. It improves the microcirculation thus increasing the salvaged myocardium improving micro vascular obstruction and does not increase the percentage of microvascular hemorrhage.

Keywords: STEMI, Coronary no-reflow, MVO, MV HGE, Salvage Index, TIMI, MBG adenosine.