

# بسم الله الرحمن الرحيم



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# شبكة المعلومات الجامعية التوثيق الالكتروني والميكرو فيلم



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# جامعة عين شمس

## التوثيق الإلكتروني والميكروفيلم

### قسم

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



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بالرسالة صفحات

لم ترد بالأصل



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# HEART RATE VARIABILITY IN PATIENTS WITH UNSTABLE ANGINA

B1227

*Thesis*

*Submitted for Partial Fulfilment for the Requirement of  
M. Sc . Degree of Cardiology*



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**2002**

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

﴿قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا

إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ﴾

صَدَقَ اللَّهُ الْعَظِيمُ

سورة البقرة: الآية (٣٢)

## **ACKNOWLEDGEMENT**

I would like to express my deepest thanks and extreme gratitude to **Prof. Dr. Ahmad Abd El Moniem Mohamed**, professor and head of cardiology department Benha University ,for his keen supervision .

My particular thanks to **Prof. Dr. Saad Ammar** Assist. Prof. of cardiology Benha faculty of medicine for his supervision ,kind advice and cooperation .

My deepest gratitude and thanks to **Dr. Ibrahem Mansour**, lecturer of cardiology Benha University for his help and cooperation.

Finally, I would like to express my deepest thanks to **Dr. Hamza Kabil**, lecturer of cardiology Benha University for his great help and valuable supervision .

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# *Aim Of The Work*

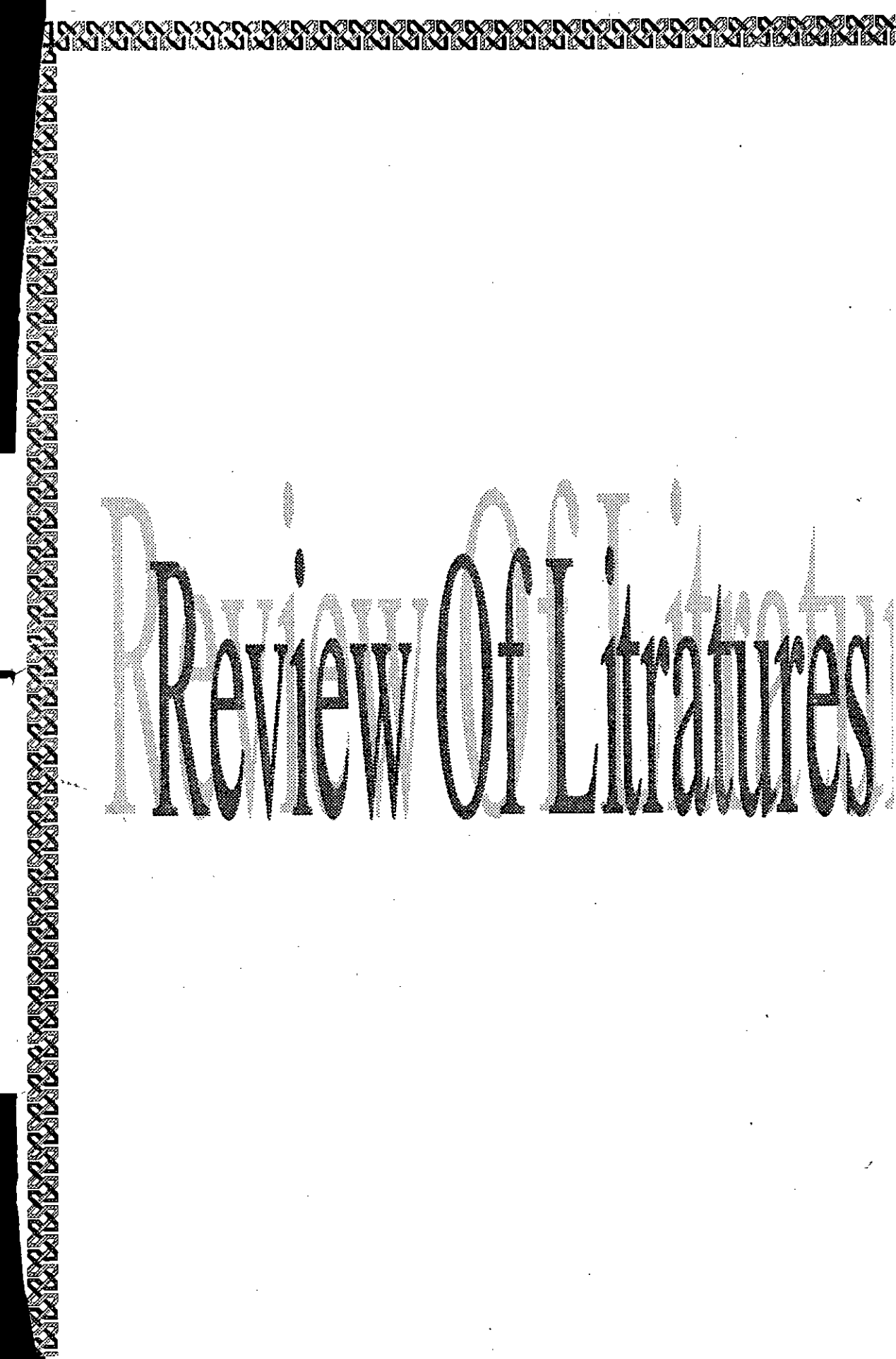
## **INTRODUCTION**

Unstable angina is associated with a high incidence of acute myocardial infarction and sudden death within 6 months (*Mulcahy et al., 1985*), however, little information about heart rate variability (HRV) in patients with unstable angina is available. Preliminary studies suggest that HRV may be depressed (*Huang et al., 1994*) and this finding may be of prognostic significance (*Loricchio et al., 1994*).

Decreased indices of HRV have shown great value as a predictor of mortality in various clinical syndromes. After myocardial infarction decreased HRV was reported to be an independent risk factor for mortality. In addition, among survivors of acute myocardial infarction, it was shown that decreased HRV predicted both death and arrhythmic events with great sensitivity and specificity than conventional predictors such as left ventricular ejection fraction (*Bigger et al., 1992*).

## **AIM OF THE WORK**

The aim of this study is to measure the different indices of heart rate variability (H.R.V) in patients with unstable angina and to assess its relation to different clinical, echocardiographic and coronary angiographic findings in these patients.



# Review Of Literatures

## DEFINITION AND CLASSIFICATION OF UNSTABLE ANGINA

Unstable angina represents a heterogenous spectrum of clinical entities between chronic stable angina and acute myocardial infarction (*Rizik et al., 1998*).

In addition to the absence of clear-cut electrocardiographic and cardiac enzyme changes diagnostic of a myocardial infarction, the currently used definition of unstable angina pectoris depends on the presence of one or more of the following three historical features,

- 1) Angina pectoris of new onset (usually within 1 month), which is brought on by minimal exertion.
- 2) Crescendo angina (more severe, prolonged, or frequent) superimposed on a preexisting pattern of relatively, stable, exertion-related angina pectoris and
- (3) Angina pectoris at rest as well as with minimal exertion (*Bernard et al., 1998*).

## CLINICAL MANIFESTATIONS OF UNSTABLE ANGINA

Clinical classification of unstable angina is based on the severity, the presumed precipitating cause, and the presence of electrocardiographic changes (*Smitherrnan, 1990*).

## CLASSIFICATION OF UNSTABLE ANGINA

### According to the severity:

**Class I:** (New onset severe or accelerated angina) patients with new onset (< 2 months in duration) exertional angina pectoris that is severe or frequent (> 3 episodes / day) or patients with chronic stable angina who develop accelerated angina (that is , angina distinctly more frequent, severe, longer in duration, or precipitated by distinctly less exertion than previously) but who have not experienced pain at rest during the preceding 2 months.

**Class II:** (Angina at rest, subacute) patients with one or more episodes of angina at rest during the preceding month but not within the preceding 48 hours.

**Class III:** (Angina at rest, acute) Patients with one or more episodes of angina at rest within the preceding 48 hours.

In classes II and III, manifestations described in class I may also occur. Unstable angina is no longer considered to be present whenever a patient has been asymptomatic or suffers angina that has been stable for more than 2 months.

### According to clinical circumstances in which unstable angina occurs:

**Class A:** (Secondary unstable angina) patients in whom unstable angina develops secondary to a clearly identified condition extrinsic to the coronary vascular bed that has identified myocardial ischemia, such

conditions reduce myocardial oxygen supply or increase myocardial oxygen demand and include anemia, fever, infection, hypotension, uncontrolled hypertension, tachyarrhythmia, unusual emotional stress, thyrotoxicosis, and hypoxemia secondary to respiratory failure.

**Class B:** (Primary unstable angina) patients who develop unstable angina pectoris in the absence of an extra-cardiac condition that has intensified ischemia, as in class A.

**Class C:** (post infarction unstable angina) patients who develop unstable angina within the first 2 weeks after documented acute myocardial infarction .

### **According to intensity of the treatment:**

**Class (1):** Unstable angina occurring in the absence of /or with minimal anti-anginal therapy.

**Class (2):** Unstable angina in the presence of appropriate therapy for chronic stable angina

**Class (3):** unstable angina occurring in the presence of maximally tolerated doses of all three categories of anti-ischemic drugs including intravenous nitroglycerin.

Unstable angina is a dynamic condition and patients may initially be in one class and move to another as underlying disease changes or response to treatment occurs (*Bernard et al., 1998*).