



Chest Pain Unit in Israel: Are We on the Road?

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The identification of acute coronary syndrome in patients presenting to the emergency room with chest pain or other equivalent symptoms suggesting a potential or acute ischemic event is a common daily diagnostic dilemma and challenge to the acute medical services.

In the United States there are approximately 5 million ER visits for chest pain a year. In Israel the number ranges from 100,000 to 150,000 [1,2]. However, only 25% of these patients are finally diagnosed as having ACS [3]. On the other hand, 5–10% of patients with chest pain who are discharged from the ER actually have myocardial infarction. These “missed” MI patients have a short-term mortality of at least twice what could be expected had they been admitted [4]. Failure to diagnose MI is the leading cause of malpractice awards against emergency rooms, which account for 21% of the total litigation costs [5]. It is therefore not surprising that physicians tend to overestimate the incidence of ACS and admit a large number of patients. The term “ROMI” – Rule Out Myocardial Infarction – resulted in unnecessary millions of admissions, tests, procedures and, as a result, expenses.

With the increasing economic pressure on healthcare, physicians and medical centers are determined to improve the efficacy of care for patients with acute chest pain. The concept of the chest pain unit has been developed to address these problems. The rationale of the CPU is to reduce overall admission rates and increase the early identification of genuine cases of ACS that need to be admitted.

The CPU is usually a separate unit located within the ER. Patients with chest pain who are at low or intermediate risk, for whom no definite diagnosis of ACS has been made after initial clinical assessment that also includes electrocardiograph and chest X-ray, are admitted to the CPU for observation. There they are closely monitored for several hours (usually 6–24 hours), and undergo a number of biochemical tests (including troponin), repeated ECGs, ST segment monitoring, and ischemia provocative

tests. Patients with negative tests are discharged and patients with positive and equivocal tests are admitted.

The introduction of the CPU has unquestionably improved the outcome of patients with chest pain and reduced the costs of health services [7]. Chest units may vary in size (according to the number of ER visits), length of stay, and use of diagnostic/provocative modalities (according to local resources and experience). Management in the CPU is based on local protocols and algorithms. The success of the CPU depends on close cooperation between the ER staff and cardiologists.

Recently, the Israel Ministry of Health recommended a pilot study to evaluate the cost-effectiveness of CPUs in Israel (a letter from the Director-General of the Ministry was sent on 4 May 2004 to all hospitals in Israel, under the heading: “Chest pain unit”). The study by Rubinshtein et al. in this issue of *IMAJ* [8] is the first published Israeli experience using the concept of CPU for the evaluation of patients with chest pain in the CPU. The authors report that the introduction of a cardiologist-based CPU pathway for evaluation of patients with possible ACS significantly changed the initial ER physician decisions in more than one-third of the patients. Thirty patients who were designated by the ER team to be hospitalized were safely discharged after a short evaluation (13.6 ± 10 hours). On the other hand, 13 patients who were scheduled for discharge by the ER team after a short and probably inadequate assessment were suspected or diagnosed after additional evaluation in the CPU as having ACS and were hospitalized.

This pilot study by Rubinshtein and colleagues supports the concept of a CPU that operates according to standard protocols. The appropriate use of local, available, sophisticated diagnostic testing by an experienced cardiologist was shown to improve patient assessment, potentially save many unnecessary hospitalizations and prevent unwarranted discharge. This experience should encourage other hospital administrations, ER staff and cardiologists to evaluate the CPU program in their local setting.

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ER = emergency room

ACS = acute coronary syndrome

MI = myocardial infarction

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