HISTORY

The evaluation of nontraumatic chest discomfort relies heavily on the clinical history and physical examination to direct subsequent diagnostic testing. The evaluating clinician should assess the quality, location (including radiation), and pattern (including onset and duration) of the pain as well as any provoking or alleviating factors. The presence of associated symptoms may also be useful in establishing a diagnosis.

Quality of Pain The quality of chest discomfort alone is never sufficient to establish a diagnosis. However, the characteristics of the pain are pivotal in formulating an initial clinical impression and assessing the likelihood of a serious cardiopulmonary process (Table 19-1), including acs in particular (Fig. 19-2). Pressure or tightness is consistent with a typical presentation of myocardial ischemic pain. Nevertheless, the clinician must remember that some patients with ischemic chest symptoms deny any "pain" but rather complain of dyspnea or a vague sense of anxiety. The severity of the discomfort has poor diagnostic accuracy. It is often helpful to ask about the similarity of the discomfort to previous definite ischemic symptoms. It is unusual for angina to be sharp, as in knifelike, stabbing, or pleuritic; however, patients sometimes use the word "sharp" to convey the intensity of discomfort rather than the quality. Pleuritic discomfort is suggestive of a process involving the pleura, including pericarditis, pulmonary embolism, or pulmonary parenchymal processes. Less frequently, the pain of pericarditis or massive pulmonary embolism is a steady severe pressure or aching that can be difficult to discriminate from myocardial ischemia. "Tearing" or "ripping" pain is often described by patients with acute aortic dissection. However, acute aortic emergencies also present commonly with severe, knifelike pain. A burning quality can suggest acid reflux or peptic ulcer disease but may also occur with myocardial ischemia. Esophageal pain, particularly with spasm, can be a severe squeezing discomfort identical to angina.

Location of Discomfort A substernal location with radiation to the neck, jaw, shoulder, or arms is typical of myocardial ischemic discomfort. Some patients present with aching in sites of radiated pain as their only symptoms of ischemia. However, pain that is highly localized—e.g., that which can be demarcated by the tip of one finger—is highly unusual for angina. A retrosternal location should prompt consideration of esophageal pain; however, other gastrointestinal conditions usually present with pain that is most intense in the abdomen or epigastrium, with possible radiation into the chest. Angina may also occur in an epigastric location. However, pain that occurs solely above the mandible or below the epigastrium is rarely angina. Severe pain radiating to the back, particularly between the shoulder blades, should prompt consideration of an acute aortic syndrome. Radiation to the trapezius ridge is characteristic of pericardial pain and does not usually occur with angina.

Pattern Myocardial ischemic discomfort usually builds over minutes and is exacerbated by activity and mitigated by rest. In contrast, pain that reaches its peak intensity immediately is more suggestive of aortic dissection, pulmonary embolism, or spontaneous pneumothorax. Pain that is fleeting (lasting only a few seconds) is rarely ischemic in origin. Similarly, pain that is constant in intensity for a prolonged period (many hours to days) is unlikely to represent myocardial ischemia if it occurs in the absence of other clinical consequences, such as abnormalities of the ECG, elevation of cardiac biomarkers, or clinical sequelae (e.g., heart failure or hypotension). Both myocardial ischemia and acid reflux may have their onset in the morning, the latter because of the absence of food to absorb gastric acid.

Provoking and Alleviating Factors Patients with myocardial ischemic pain usually prefer to rest, sit, or stop walking. However, clinicians should be aware of the phenomenon of "warm-up angina" in which some patients experience relief of angina as they continue at the same or even a greater level of exertion without symptoms (Chap. 293). Alterations in the intensity of pain with changes in position or movement of the upper extremities and neck are less likely with myocardial ischemia and suggest a musculoskeletal etiology. The pain of pericarditis, however, often is worse in the supine position and relieved by sitting upright and leaning forward. Gastroesophageal reflux may be exacerbated by alcohol, some foods, or by a reclined position. Relief can occur with sitting.

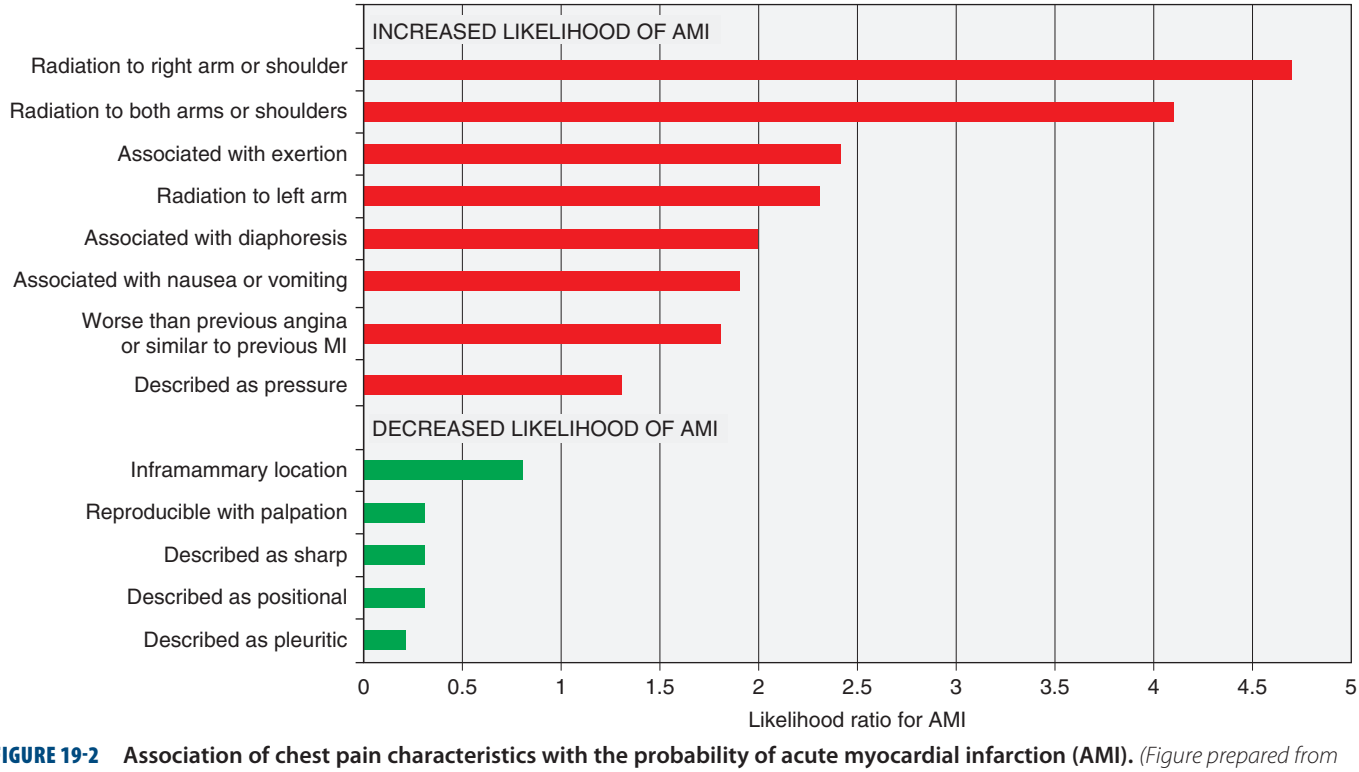

FIGURE 19-2 Association of chest pain characteristics with the probability of acute myocardial infarction (AMI). *(Figure prepared from data in CJ Swap, JT Nagurney: JAMA 294:2623, 2005.)*