The Case of a 57-year-old Man with Heart Fluttering and Lightheadedness

In Bouncebacks, *which appears periodically in* JUCM, *we provide the documentation of an actual patient encounter, discuss patient safety and risk management principles, and then reveal the patient's "bounceback" diagnosis.*

Cases are adapted from the book Bouncebacks! Emergency Department Cases: ED Returns *(2006, Anadem Publishing,* www.anadem.com*; also available at* www.amazon.com *and* www.acep.org*) by Michael B. Weinstock and Ryan Longstreth. The book includes 30 case presentations with risk management commentary by Gregory L. Henry, past president of The American College of Emergency Physicians, and discussions by other nationally recognized experts.*

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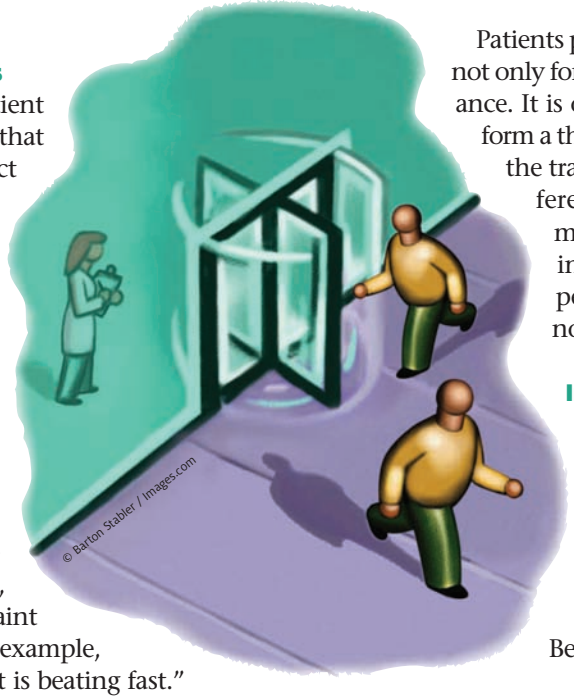
A 57-year-old Male with Heart Fluttering and Lightheadedness

What happens when our patient so badly wants to be well that they talk us out of the correct diagnosis?

"I think it is my anxiety" was the mantra accepted by the physician in this case.

Though diagnoses are not always clear after the initial encounter, they are not up for negotiation. Patients have a vested interest, due to denial or human nature, in believing that nothing is seriously wrong with them. It can be tempting to accept the theory that is put in front of us, especially when the chief complaint is common and nonspecific; for example, "I am lightheaded and my heart is beating fast."



Patients present to the urgent care center not only for a diagnosis, but also for reassurance. It is our job to stay neutral and perform a thorough evaluation, and to avoid the trap of tunnel vision with our differential diagnosis and management. We must avoid being lulled into a false sense of security—especially when the patient does not want to be sick.

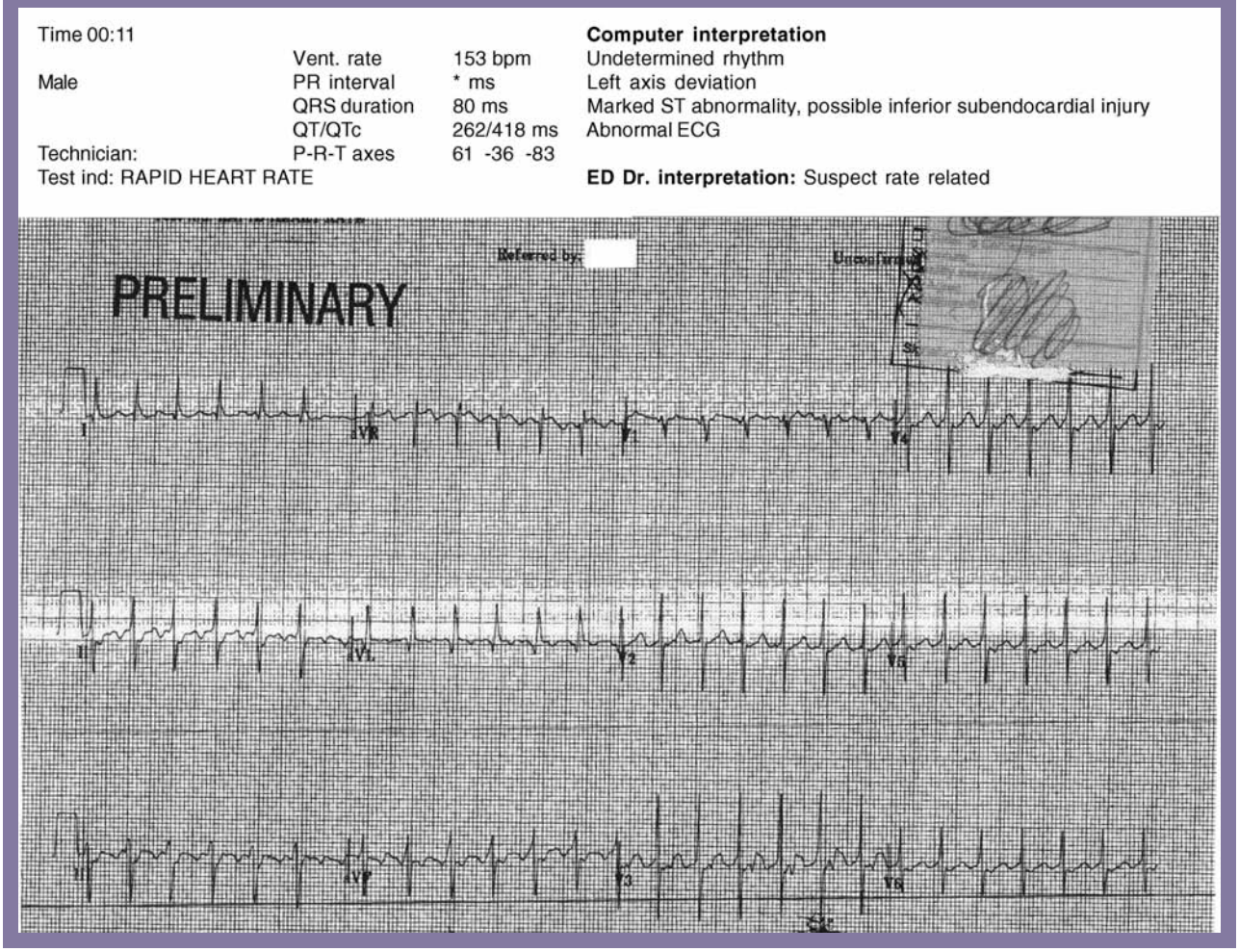
Initial Visit

(Note: The following, as well as subsequent visit summaries, is the actual documentation of the providers, including punctuation and spelling errors.)

CHIEF COMPLAINT: Heart Beat Rapid

Time	Temp (F)	Pulse	Resp	Syst	Diast	O2	sat
Initial	98.3	147	20	176	127	99	
Repeat			114	16	133	68	97

Figure 1



HISTORY OF PRESENT ILLNESS:

Pt. states heart fluttering for 3 days, lightheaded with standing. Has intermittent chest pain which began gradually 3 days ago. The pain is mild with radiation to the left lateral ribs and upper arm. Has tingling left fingers. Hx of panic attacks, did not have any all summer but has been having increasing attacks that have been present the last 3 days with fluttering. No. previous hx of heart problems. Last summer with left upper arm pain, was eval. at another local hospital and had negative stress test done at that time. Denies syncope, peripheral edema, fever, sob, cough, diaphoresis, abd. pain, nausea. Hx of high triglycerides, no longer on meds for same. Had Hep. C. last summer, resolved. Has had anxiety and panic attacks. Pt is otherwise healthy, watches weight, works out regularly

PAST MEDICAL HISTORY/TRIAGE:

Allergies: NKDA
Current Meds: Unknown to patient
PSHx: Herniorrhaphy
PMHx: HTN, Panic attacks
SHx: D/C ETOH 15 years ago after pancreatitis, pseudocyst. Smokes 3 cigs per day for 15 years
FHx: Father with MI age 70, No hx of HTN, DM, DVT, CVA

EXAM:

General: Well-appearing; Well nourished; A&O X3, in NAD
Neck: No JVD or distended neck veins
Resp: Normal chest excursion with respiration, breath sounds clear and equal bilaterally; no wheezes, rhonchi, or rales

Card: Regular rhythm, tachycardia, without murmurs, rub or gallop
Chest: No pain with palpation
Abd: Non-distended; non-tender, soft without rigidity, rebound or guarding, no pulsatile mass
Extremities: Pulses 2+ and equal X 4 extremities, no peripheral edema or calf muscle pain

ORDERS/RESULTS:

ECG (at 00:11)
Orders: Ativan
Labs: WBC: 6.9 (4.6-10.2); **Hgb:** 16.6 (13.5-17.5); **PLT:** 220 (142-424), **lytes, BUN/creat – WNL. Trop I** .06 (.00-.27); **fingerstick blood sugar**-150
CXR: normal portable chest
Progress Note: I spoke with this patient at length. He says he feels "100% better". He has been stable throughout his stay. The pressure he described earlier to the physician assistant is not reproducible with exertion. He regularly exercises and does not experience chest pain. He states he does not use cocaine. He had a negative stress test last year. Overall I believe his symptoms are more consistent with anxiety and am very comfortable with sending him home.

DIAGNOSIS:

1. Chest pain- atypical
2. Anxiety
3. Tachycardia-supraventricular

DISPOSITION:

The patient was discharged to home accompanied by spouse. Follow-up with primary care physician in 2 days. AfterCare instructions for anxiety. Prescription for Ativan (lorazepam) 1mg. Sixteen (16).

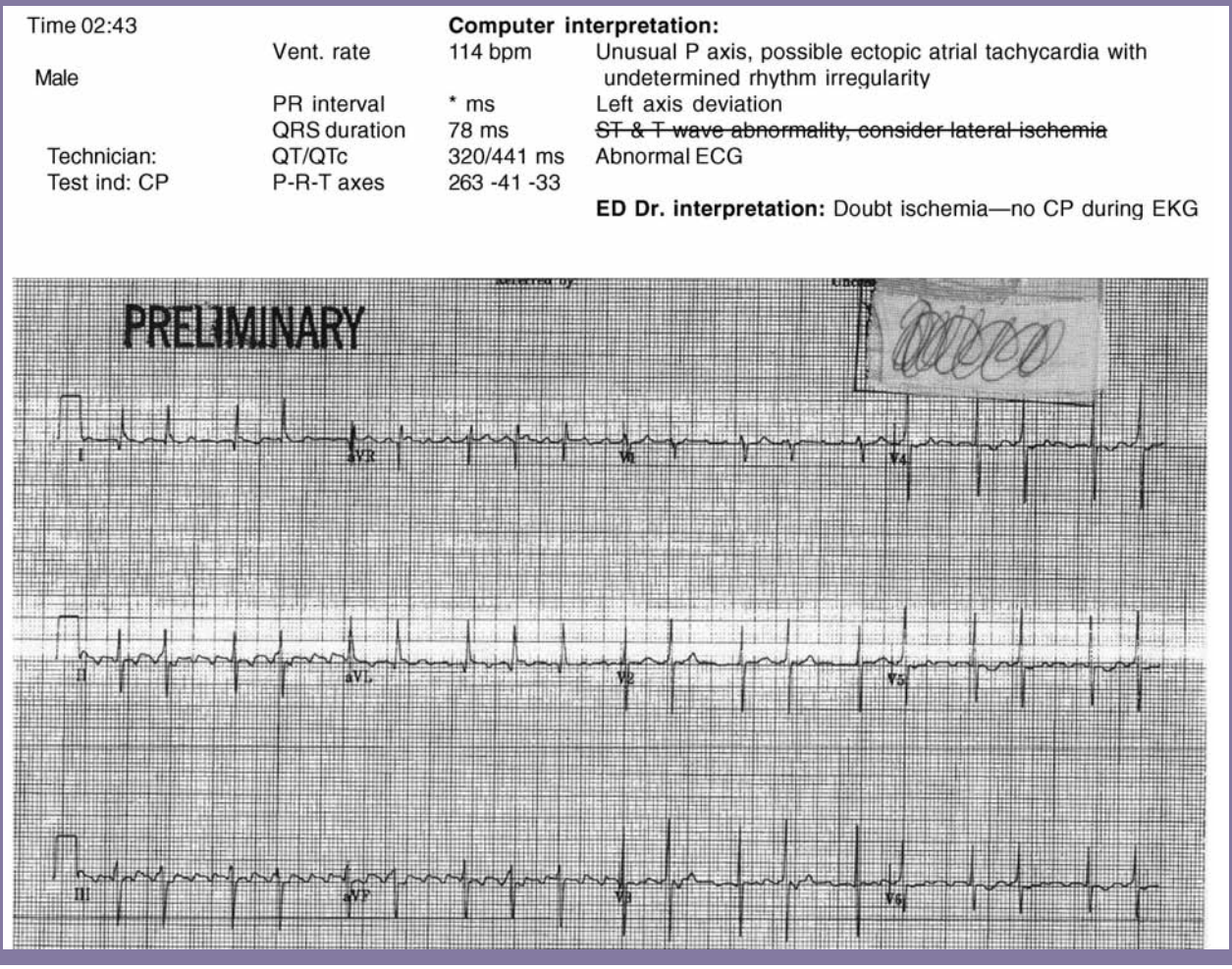
Discussion of Risk Management Issues at Initial Visit

Point 1: Anxiety should be the diagnosis of last resort after an organic cause has been excluded.

Discussion: We need to avoid tunnel vision when a patient suggests a diagnosis. Often, the biggest impediment to establishing a correct diagnosis is a previous diagnosis.

Our patient has a history of "anxiety," but we do not know how this was determined. Did the patient diagnose himself, or was there an evaluation performed by a physician? Is there a possibly an organic

Figure 2



cause, such as hyperthyroidism, cardiac arrhythmia, pheochromocytoma, or a drug interaction which is incorrectly being attributed to anxiety?

Maintaining an open differential diagnosis often will keep the practitioner out of trouble, especially when dealing with high-risk chief complaints, such as one that has both cardiovascular and neurologic components.

Point 2: His vital signs and ECG do not support a diagnosis of anxiety.

Discussion: A heart rate of 158 is fast for anxiety to be the culprit. It is impossible to tell from the ECG if this is flutter, or accelerated atrial or junctional rhythm. A lightheaded patient with tachycardia should be considered unstable and a candidate for prompt chemical or electrical rate control.

Point 3: This patient was not correctly risk stratified when evaluating cardiac causes. He is describing a fluttering of his chest, lightheadedness, and pain radiating to left arm.

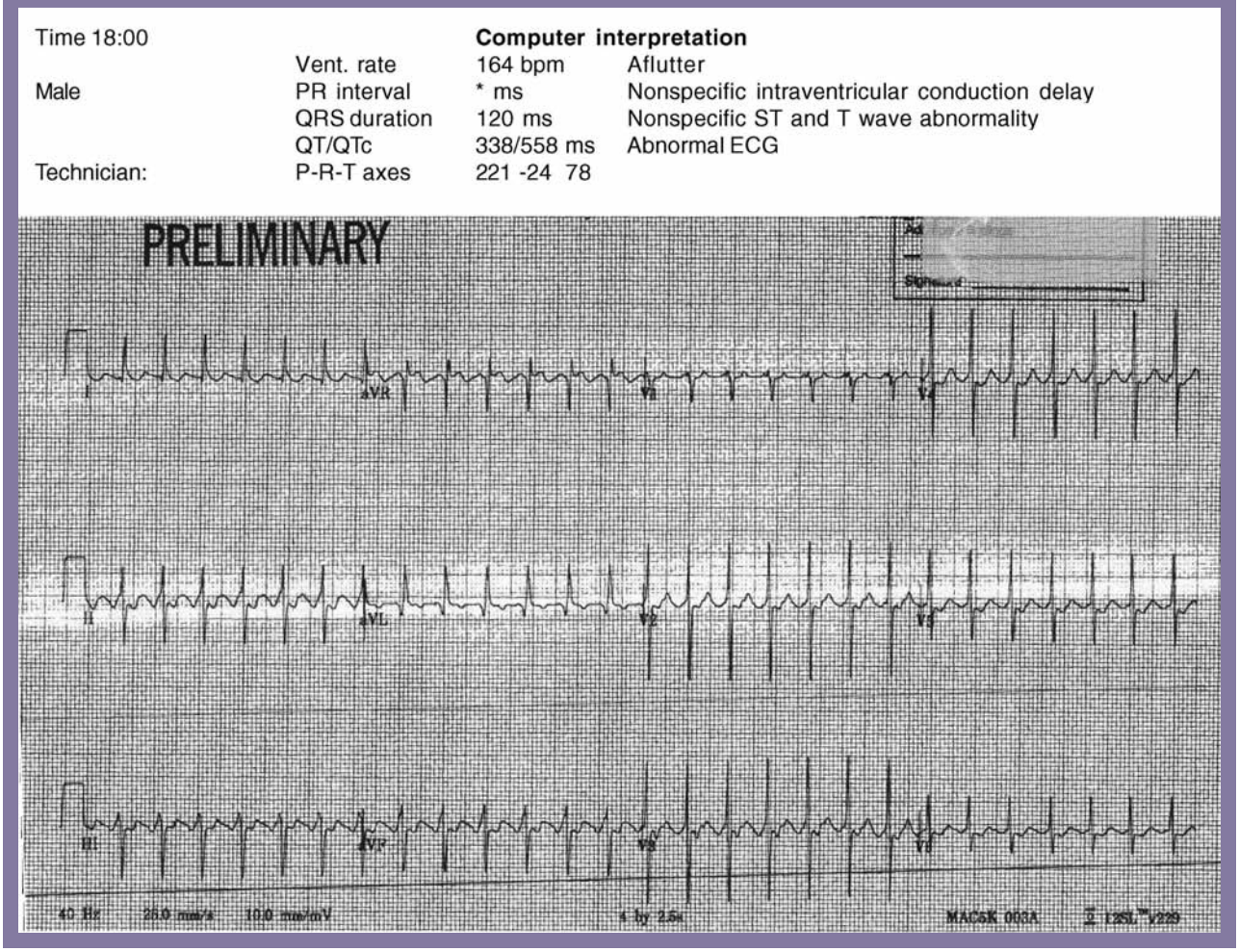
Discussion: The possibility of cardiac ischemia causing an arrhythmia resulting in lightheadedness would not be unusual. The most common cause of death in 50-year-old males is cardiac disease, and there is nothing atypical about mild substernal chest pain radiating to left chest wall and left upper arm.

This male in his late 50s has a past history of heavy alcohol abuse, as evidenced by development of pancreatitis and pseudocyst. Cardiomyopathy, a risk factor for an arrhythmia, should be considered.

An additional cardiac risk factor would be untreated elevated triglycerides.

A history of a recent negative stress test does not rule out acute coronary syndrome (ACS); in fact, the sensitivity of this test is only 70% to 80%.

Figure 3



When a patient has chest pain, the nidus is on us to exclude cardiac disease as an etiology of the symptoms.

Point 4: The ECG was misread—not only by the doctor, but also by the computer.

Discussion: When reading ECGs, look at the tracing first, provide your own interpretation, then see what the computer thinks.

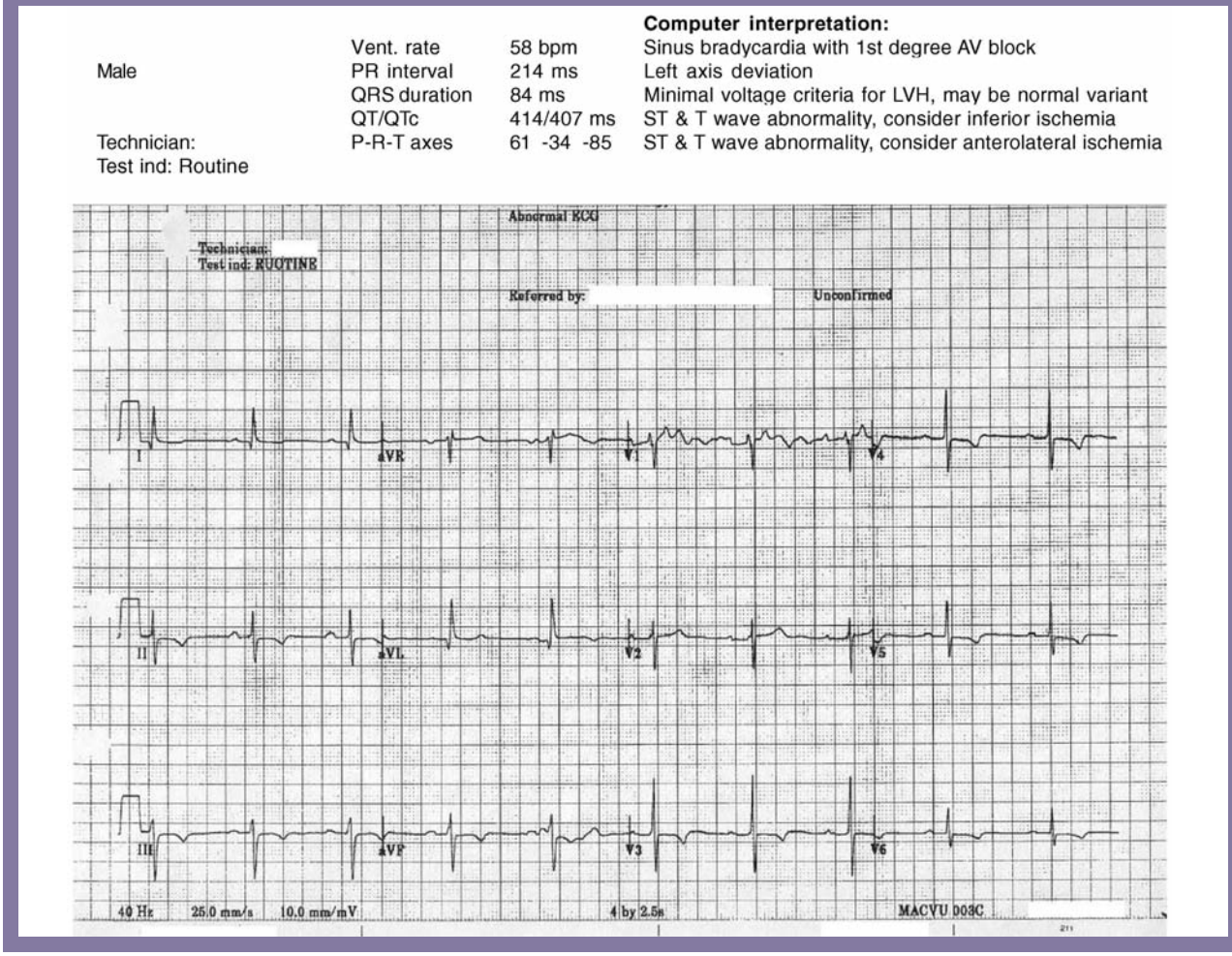
If there was a question about the interpretation, a consult could have been obtained to more accurately integrate this data in light of the patient's symptoms. Faxing a questionable ECG to a cardiologist or the local ED is usually quick and can lead to valuable information.

Bounceback Visit

Same day the ECG is correctly read by 2nd physician as *atrial flutter* and pt. is sent to the ED.

- To ED at 17:05 with pulse 166, resp 24, BP 157/114, sat 96%
- HPI: Difficult historian, mild intermittent tight left sided chest pain with radiation to left arm for last 6 months but currently pain free. No exertional chest pain. Assoc. diaphoresis but no Dyspnea. No improvement with ativan.
- PE: WNL except tachycardia
- ED course:
- 17:48 Aspirin 325mg PO
- 18:02 Cardizem 20mg IVP, cardizem drip 10mg/hour. Heart rate promptly drops to 90. BP 160/98
- 20:23 Lovenox 1m/kg
- Labs: Thyroid studies and cardiac enzymes WNL
- Diagnosis: New onset atrial flutter with RVR, chest pain

Figure 4



- Admission and cardiology consult

Discussion of Visit and Risk-management Issues

There was a good policy in place for review of ECGs, and the misread was caught and addressed, but not before the patient had over 24 hours of a heart rate 150 beats per minute (BPM).

It is noteworthy that his chest pain did have some atypical features. However, the first physician should not have been deterred from further evaluating this concerning symptom with more definitive tests rather than just relying on history and conjecture alone.

The patient's normal stress test from the previous year does not protect him from having ACS. In fact, this physician could have completely missed the correct ECG diagnosis (as he did here), and still make the correct disposition decision of admission with a cardiology consult.

Discussion of ECG Interpretation and Management

The first step in evaluating any tachycardia is to categorize it as narrow or wide, and then as regular or irregular.

A narrow QRS duration is 80msec and reflects the activation of the ventricles via the normal His-Purkinje system. Most narrow complex tachycardias other than a-fib and multifocal atrial tachycardia (MAT) are associated with a regular ventricular rate.

The differential diagnosis of narrow complex tachycardia is broad and includes a-fib, a-flutter, and a variety of paroxysmal SVTs such as atrial tachycardia and AV nodal reentrant tachycardia.

It is essential to determine four specific features of the atrial activity:

- the atrial rate
- the p wave morphology (same as sinus, retrograde, or abnormal)

- position of the p wave in relation to the QRS complex (the RP relationship)
- the relationship between atrial and ventricular rates (1:1 or not)

If the P waves are not easily identified, then maneuvers such as vagal stimulation and adenosine should be considered to further evaluate the characteristic of the abnormal rhythm. Atrial flutter can often be distinguished from other SVTs by its unique "saw-tooth" pattern. Typically, the atrial rate is close to 300 BPM with a 2:1 AV block resulting in a ventricular rate of 150 BPM.

Studies of patients with atrial flutter who are not anticoagulated reveal a left atrial thrombus in 6% to 43% of patients. Cardioversion without anticoagulation results in a 1.7% to 7.3% rate of embolic complications. Generally, if the atrial flutter is present for over 48 hours, anticoagulation is continued for four weeks prior to and four weeks following cardioversion.

Take-home Teaching Points

- Don't fall into the trap of tunnel vision when patients offer explanations for their symptoms (i.e., "My panic attacks have been worse these last few days"). Assume it's not anxiety until proven otherwise. All patients with psychiatric diagnosis will eventually die of an organic illness.
- Be sure the discharge diagnosis is supported by the physical findings and lab results. A heart rate of 150 in a 57-year-old man with chest pain is concerning for acute cardiac syndrome, regardless of the ECG interpretation.
- A regular narrow QRS tachycardia with a rate of 150 to 160 BPM is a classic presentation of atrial flutter.
- If there is difficulty in determining the rhythm because of a fast heart rate, run a rhythm strip at twice the normal paper speed.
- A previous normal stress test does not guarantee anything.
- When in doubt, get a consult.

Follow-up

The hospital course was uneventful. The patient converted to sinus rhythm spontaneously. He underwent a stress echocardiogram which was unchanged from prior studies. He was discharged on metoprolol succinate 50 mg QD with cardiology follow-up. ■

Suggested Readings associated with this article are available at www.jucm.com.