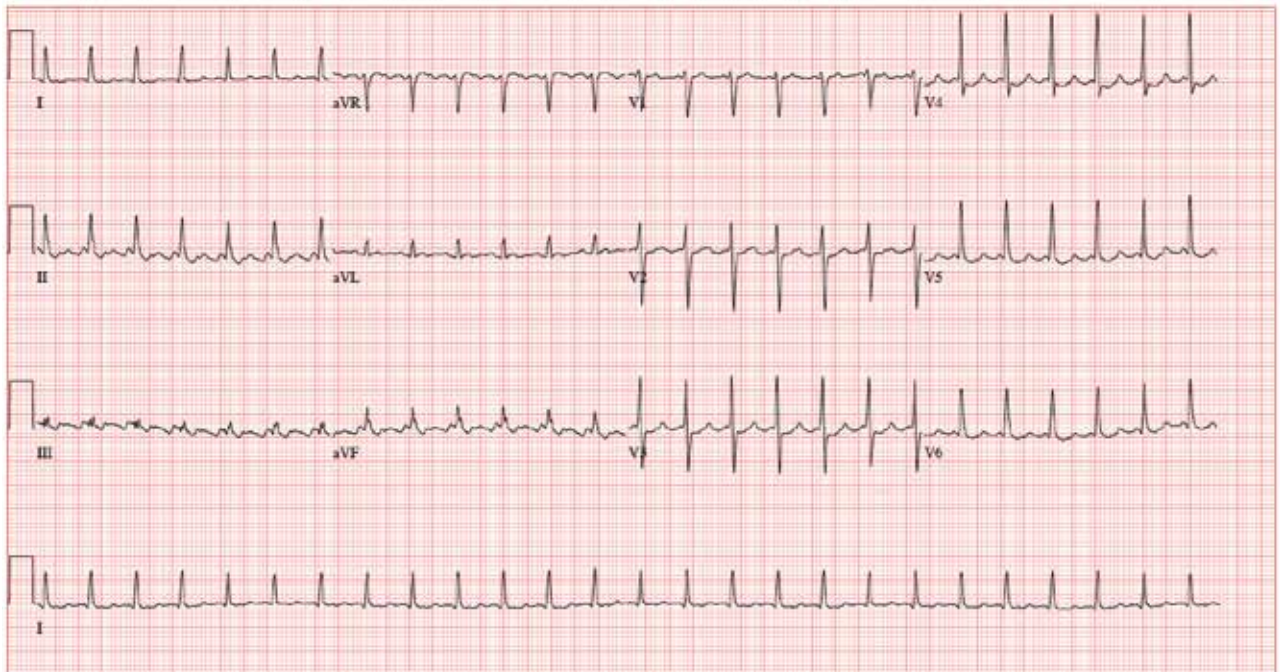


# Beer Before Liquor Affects the Ticker



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**A**fter a night of heavy drinking, a 34-year-old man awakens with a rapid heart rate and a fluttering sensation in his chest, which radiates up to his neck. By the time he arrives to your emergency department, he has had these symptoms for about 2 hours. He denies chest pain but reports having difficulty catching his breath. He says this is the first time he's experienced these symptoms. He has no prior cardiac or pulmonary history.

The patient had been out with 4 old college friends, and they had between them consumed a case of beer and a fifth of whiskey. He cannot remember going home, but they all had ordered cabs ahead of time, knowing they would be drinking heavily. He denies taking any recreational drugs.

Past medical and surgical histories are remarkable only for a left tibial fracture sustained when the patient played high school football. He has no allergies and takes no medications. Although he doesn't smoke tobacco, he admits to using marijuana sparingly; however, he says he hasn't used it in the past 3 months. He works as a store

manager at a local grocery chain. He isn't married, has no children, and isn't in a relationship.

Family history reveals the patient is an only child. His father has hypothyroidism, and his mother has type 2 diabetes, which is controlled with metformin. His maternal grandparents both have hypertension, which is managed with  $\beta$ -blockers. His paternal grandparents are both deceased as a result of an automobile accident, and he does not know whether they had any significant medical illnesses.

The review of systems shows a recent increase in alcohol consumption following a breakup with his girlfriend 3 months ago. A 12-point review of systems is noncontributory.

Vital signs include a blood pressure of 118/62 mm Hg; pulse, 150 beats/min; and  $O_2$  saturation, 98% on room air. He is afebrile.

Physical exam reveals a thin, healthy but anxious man. His height is 72 in and his weight, 188 lb. The HEENT exam is normal. The neck is supple without thyromegaly and no jugular venous distention. The lungs are

clear in all fields without wheezes, rales, or rhonchi.

Cardiac exam reveals tachycardia with a regular rate of 150 beats/min and no murmurs, extra heart sounds, or rubs. The abdomen is soft and nontender, with no palpable organomegaly. Peripheral pulses are equal bilaterally, with no palpable bruits. There is no peripheral edema, and the neurologic exam is intact.

An ECG reveals the following: a ventricular rate of 155 beats/min; PR interval, unmeasured, QRS duration, 78 ms; QT/QTc interval, 272/437 ms; P axis, unmeasured; R axis, +34°; and T axis, -50°. What is your interpretation?

### ANSWER

The correct interpretation is atrial flutter with 2:1 conduction. In the absence of ex-

ercise, a tachycardia in a range of 130-150 beats/min with a regular rate should raise suspicion for atrial flutter. The presence of 2:1 conduction implies an atrial rate of 310 beats/min, within the range of an atrial macro-reentrant tachycardia.

There are two P waves for each QRS complex. One is hidden in the T wave in lead II, and the other occurs immediately before the QRS complex in leads II and aVF. Note that the P wave immediately preceding the QRS complex is not representative of a short PR interval with preexcitation, as seen in Wolff-Parkinson-White syndrome.

In this otherwise healthy male with no history of arrhythmia, the most likely cause of atrial flutter is alcohol consumption.

The patient was cardioverted to normal sinus rhythm and has had no further episodes. **CR**