What’s that …
The above rhythm strip reveals:

a) AF with a PVC

b) indication for a single chamber ICD

c) classic example of an Ashman's beat

d) pre-excitation syndrome
• Long-Short Rule (Ashman Phenomenon):
  – the earlier in the cycle a PAC occurs
  – & the longer the preceding cycle
  – the more likely the PAC will be conducted with aberration.
    • aberration is defined as a deviation
    • conduction deviates from the normal pathway
• This is because the refractory period of the ventricular conduction system is proportional to:
  – cycle length or heart rate;
  – the longer the cycle length or slower the heart rate,
  – the longer the recovery time of the conduction system.
• In most individuals the R bundle normally recovers more slowly than the L bundle.

• A critically timed PAC is therefore more likely to conduct with RBBB than with LBBB.
• In diseased hearts, however, LBBB aberrancy is also seen.

• 1947 - Dr. Richard Ashman first described this in patients with AF.
  – He noted that the QRS complexes ending a short RR interval were often of a RBBB pattern
  – if the preceding RR interval was long.

• That's all it takes to get your name attached to a phenomenon; you must publish!
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What is cause of the pause at the arrow?

a. Sinoatrial block, type II
b. Second-degree atrioventricular block, type I
c. Second-degree atrioventricular block, type II
d. Nonconducted atrial premature impulse

Acknowledgement – www.medscape.com
• **Correct Answer:** Nonconducted atrial premature impulse.

• **Discussion:** During the pause (↓) noted here, there is a negative blip that occurs shortly after the QRS complex, which is a prematurely occurring P wave. This P wave occurs during the refractory period of the conduction system and is blocked, causing the pause.

• If the atrial premature impulse occurs slightly later, when part of the intraventricular system (usually the left bundle branch) has recovered from the refractory period and the other part (usually the right bundle branch) is still refractory, it will conduct to the ventricles **aberrantly**, as occurred with the sixth beat in the above tracing. Thus, a premature atrial impulse can conduct to the ventricles normally, aberrantly, or not at all. *(If aberrantly, then it’s Ashman’s Phenomenon.)*

• In clinical practice, an unexpected pause is most often due to a nonconducted premature atrial impulse.