The double adenosine test: a simple and non-invasive tip to unmask unapparent pre-excitations at the emergency department

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Disclosure Statement of Financial Interest

I currently have, or have had over the last two years, an affiliation or financial interests or interests of any order with a company or I receive compensation or fees or research grants with a commercial company:

Speaker's name:

☑️ I do not have any potential conflict of interest
Tachycardia termination with i.v. adenosine
2 main mechanisms

AVNRT
2 main mechanisms

AVNRT

Fast Pathway
LONG Refractory period

Slow Pathway
SHORT Refractory period
2 main mechanisms

AVNRT

AVRT
The single relevant question

Is there an accessory pathway capable of anterograde conduction?

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**NO**

Benign condition / No risk of SCD

Ok for β-blockers / Calcium channels inhibitors

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**YES**

Potential risk of SUDDEN CARDIAC DEATH !!!

pre-excited AF
The single relevant question

Is there an accessory pathway capable of anterograde conduction?

NO

Benign condition / No risk of SCD

OK for β-blockers / Calcium channels inhibitors

YES

Potential risk of SUDDEN CARDIAC DEATH !!!

pre-excited AF

Avoid β-blockers / Calcium channels inhibitors

Consider EPS / Catheter ablation

OK for β-blockers / Calcium channels inhibitors
Next step

How to diagnose an accessory pathway capable of anterograde conduction?
Manifest pre-excitation
Masked pre-excitation
Next step

How to *unmask* an accessory pathway capable of anterograde conduction?

Adenosine test *during sinus rhythm*

2\textsuperscript{nd} injection after tachycardia termination
No accessory pathway
No accessory pathway
Masked pre-excitation
Masked pre-excitation
Example 1
Example 2
Same patient...
Example 3
Conclusions

• Making a diagnosis of WPW is important, as it is associated with an increased risk of sudden cardiac death.

• Unfortunately, a pre-excitation can be unapparent during sinus rhythm despite the presence of an antegradely conducting accessory pathway.

• In patients with paroxysmal SVT, the double adenosine test is a quick, non-invasive, cheap, and very simple method to diagnose (or rule out) an antegradely conducting accessory pathway whenever there is a doubt on the baseline ECG.