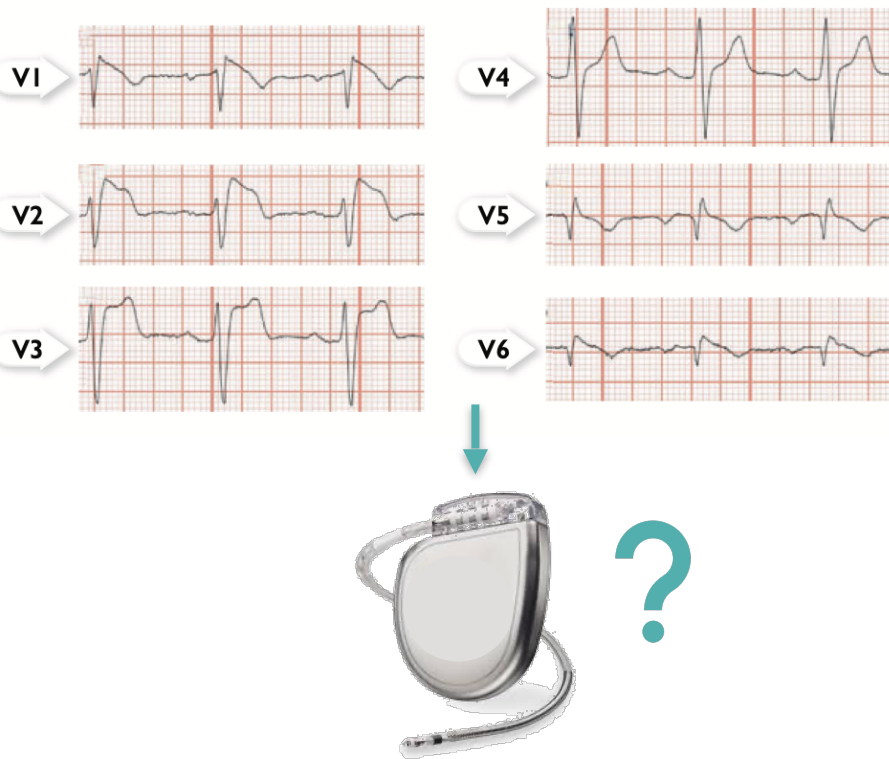


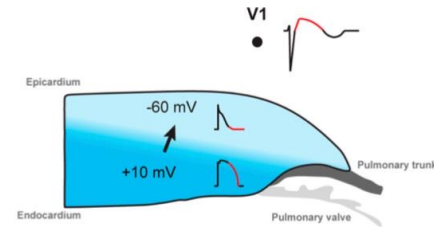
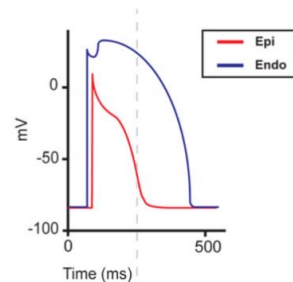
ORAL COMUNICATION

BREAKING WAVE CREST: a novel ECG phenotype associated with VA events in patients with Low-Risk Type 1 Brugada Pattern

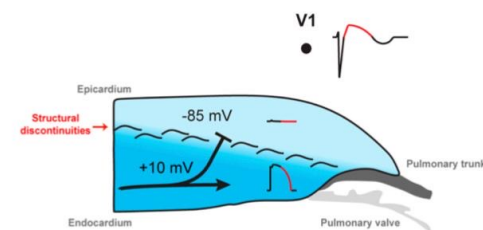
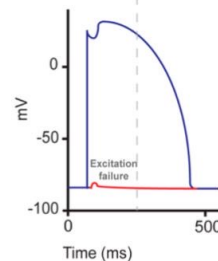
Dott. D. Panico



A
Repolarization hypothesis



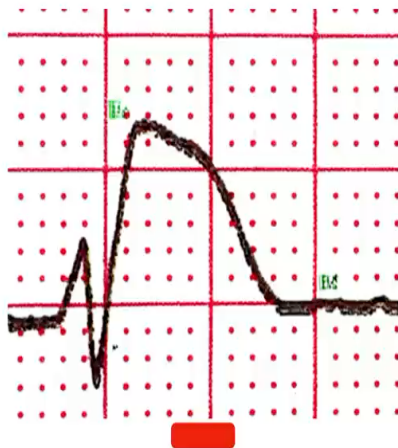
B
Conduction hypothesis



Blok M et al. *Int J Mol Sci.* 2020;21(19):7051



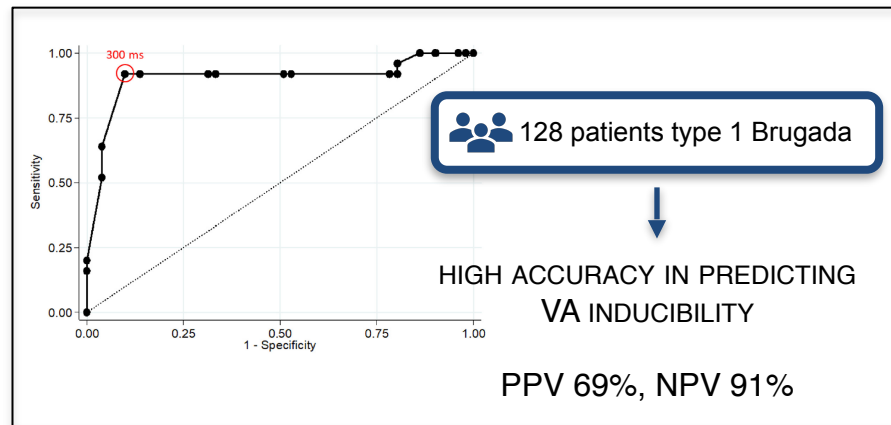
dST-Tiso IN PATIENTS WITH TYPE 1 BRUGADA



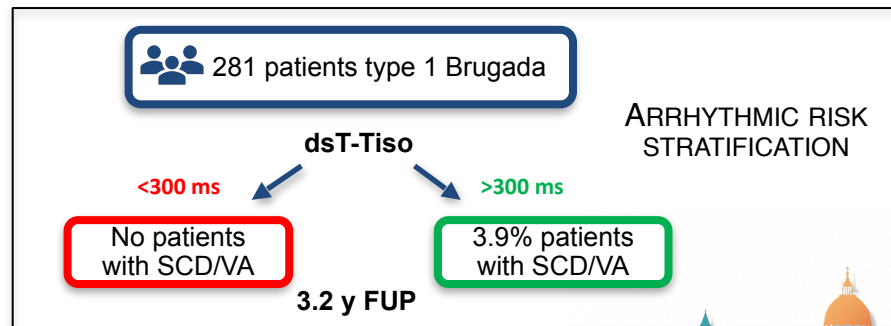
FPSorrenti

THE INTERVAL BETWEEN THE ONSET OF THE COVERED ST-SEGMENT
ELEVATION AND ITS TERMINATION AT THE ISOELECTRIC LINE

Iacopino et al. Am J Cardiol. 2021;159:94–99.



Iacopino et al. J Cardiovasc Electrophysiol. 2024;35:1747–1753.



Iacopino et al. Am J Cardiol. 2026;267:7–14.



BREAKING WAVE CREST (BWC) PHENOTYPE

- ✓ J-peak ≥ 0.4 mV
- ✓ Descending or flat ST
(convex morphology upwards)
- ✓ Flat or isoelectric T-wave
- ✓ No ascending ST
(exclusion criterion)



ASSESSMENT OF THE ASSOCIATION BETWEEN:

- BWC PATTERN, dST–TISO INTERVAL
- OCCURRENCE OF SUSTAINED VENTRICULAR ARRHYTHMIC EVENTS DURING FOLLOW UP



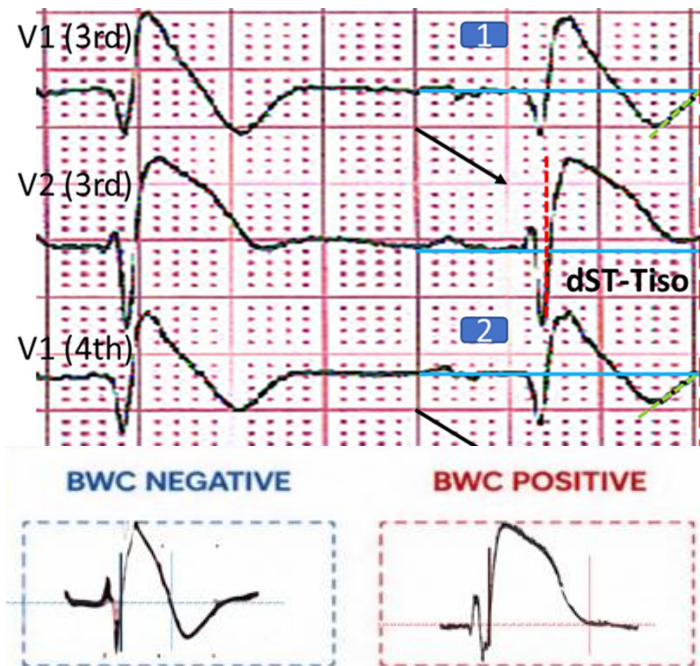


309 patients with type 1 Brugada
(spontaneous or drug-induced)



Systematic reassessment of ECGs
(baseline and during ajmaline test):

- dsT-Tiso measurement
- BWC pattern identification



Mean follow-up: 54 ± 18 months

- VA events in 11 patients (3.5%)
- Longer dST–Tiso interval (326 ± 16 ms vs 250 ± 66 ms; $p < 0.001$)
- All VA in patients with BWC pattern
- No events in BWC-negative patients (9.3% vs 0%; $p < 0.001$)
- BWC positive pattern:
 - significantly prolonged dST–Tiso intervals (321 ± 25 vs 212 ± 46 ms, $p < 0.001$)
 - greater J-peak amplitude (0.56 ± 0.17 vs 0.40 ± 0.18 mV, $p < 0.001$)

QUANTITATIVE FINDINGS

	BWC NEGATIVE	BWC POSITIVE	p VALUE
 dST–Tiso (ms)	212 ± 46	321 ± 25	<0.001
 J-peak (mV)	0.40 ± 0.18	0.56 ± 0.17	<0.001



ALL VENTRICULAR ARRHYTHMIC EVENTS OCCURRED IN BWC+ PATIENTS

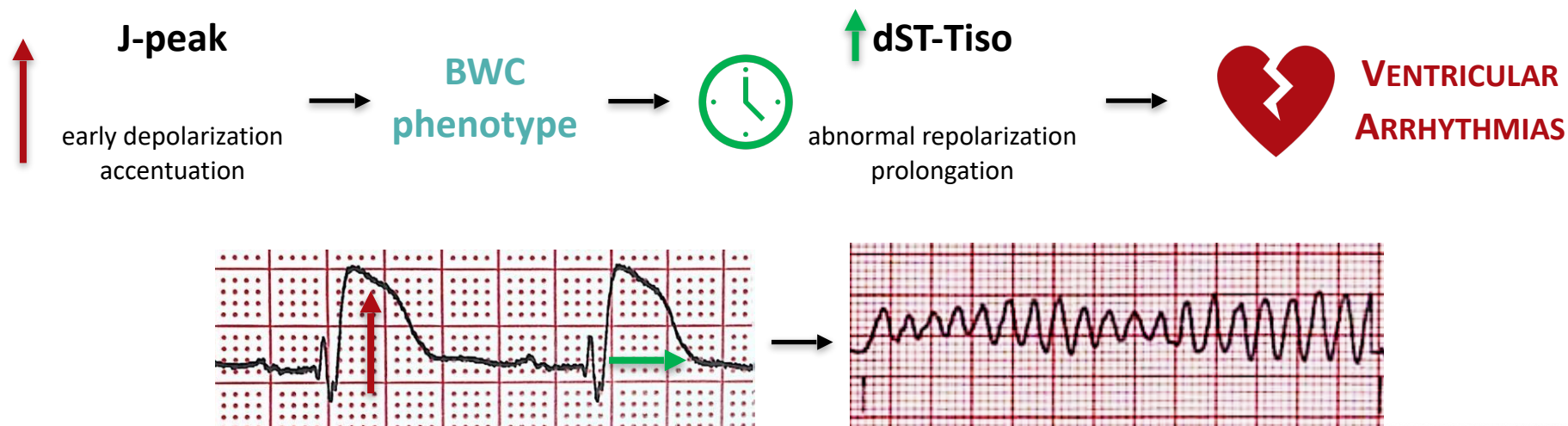
 **9.3% vs 0%**

 **$\chi^2 = 18.5$
 $p < 0.001$**

Follow-up: 54 ± 18 months



PROPOSED PATHOPHYSIOLOGICAL LINK



BREAKING WAVE CREST PHENOTYPE



**POTENTIAL INCREASED ELECTRICAL
INSTABILITY**

THE BWC PHENOTYPE IDENTIFIES LOW-RISK BRUGADA PATIENTS WITH MARKED PROLONGATION OF DST-TISO AND HIGHER J-PEAK, AND IS STRONGLY ASSOCIATED WITH VA EVENTS.
IT CAN REPRESENTS A NEW ECG MARKER FOR RISK STRATIFICATION



