CORSO TEORICO-PRATICO GIMSI-SIIA “GESTIONE DEL PAZIENTE IPERTESO CON SINCOPE”

# CASO CLINICO: SINCOPE IN PAZIENTE IPERTESO CON BLOCCO BIFASCICOLARE

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Cardiologia – UTIC

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# CASO CLINICO

- Enrico T., 82 anni
- Ipertensione arteriosa, dislipidemia, ex tabagismo; pregressa prostatectomia radicale
- In età giovanile, alcune sincopi da strumentazione o dopo ortostatismo protratto in ambiente caldo (cucina)
- Dal 2011 noto blocco bifascicolare (BBDX + EAS); ad un ecocardiogramma eseguito quell'anno, assenza di cardiopatia organica di rilievo eccetto lieve dilatazione biatriale
- Il 15/8 accesso in Pronto Soccorso per cardiopalmo associato a presincope; all'ECG tachifibrillazione atriale → CVE
- Terapia in atto: perindopril/amlodipina 5/5 mg 1 cp, simvastatina 20 mg 1 cp

- 10/9 episodio di pdc preceduto da malessere, senso di mancamento e sudorazione, durati un minuto circa, insorti mentre annaffiava le piante sul terrazzo. Verosimile rapida ripresa dello stato di coscienza (no testimoni) senza sintomi postcritici. Lievi traumi contusivi.
- Il paziente si recava dal curante in motorino. Dopo aver parcheggiato, intensa presincope caratterizzata da astenia, sensazione di calore e di mancamento.
- Accompagnato in ambulanza (presente sul posto) in Pronto Soccorso

# IN PRONTO SOCCORSO

- Paziente asintomatico, sa riferire l'accaduto ma minimizza, non vuole rimanere in P.S.
- EO: ndp. PA 95/60 mmHg, Fc 98 bpm, SpO2 95% in aria
- ECG: ritmo sinusale 98 bpm, conduzione AV ai limiti superiori di norma, BBDX + EAS, atipie aspecifiche FRV
- EGA: pH 7.45, pCO2 37, pO2 85, HCO3 24, Latt 0.9, p/F > 400
- RX torace, TC cranio: ndp
- Esami ematici: Hb 12.5 g/dL, crea 1.2 mg/dL, Ddimero 620 ng/mL, Tn I HS 42 pg/mL, CK MB 2 ng/mL

# DOMANDA NUMERO 1: COSA FARE?

A) Nessun altro esame, dimissione al domicilio riaffidando il paziente al medico curante

B) Ulteriori accertamenti in Pronto Soccorso (angio TC torace, ecocardiogramma, doppler TSA…), se negativi dimissione

C) Ricovero in OBI e monitoraggio ECG per 24-48 ore

D) Ricovero in Cardiologia

E) Dimissione protetta e «fast track» a Syncope Unit

# RICOVERO IN CARDIOLOGIA

- ECG all'ingresso: ritmo sinusale 70 bpm, conduzione AV ai limiti superiori di norma, BBDX + EAS, atipie FRV invariate
- Monitoraggio telemetrico continuo: assenza di aritmie
- Ecocardiogramma: ventricolo sinistro di normali dimensioni cavitarie, lievemente ipertrofico; normale cinesi regionale, conservata funzione sistolica globale (FE 60%). Normali dimensioni del bulbo e del primo tratto esplorabile dell'aorta ascendente. Modesta atriomegalia bilaterale. Lieve IM, non ulteriori valvulopatie di rilievo. VDX di normali dimensioni, normocinetico. PAPs non cifrabili. Nulla al pericardio. Non pletora cavale.

# DOMANDA NUMERO 2: COSA FARE?

A) Angio-TC torace (esclusione TEP)
B) Studio della sincope (MSC, TTT)
C) SEF
D) ABPM
E) Dimissione a domicilio con prescrizione di Holter ECG a breve termine
F) Impianto di loop recorder

# DURANTE LA DEGENZA IN CARDIOLOGIA

- Studio elettrofisiologico: ritardo di conduzione atrio-ventricolare basale, senza blocco AV totale dopo stress farmacologico. Non inducibilità di fibrillazione atriale.
- Massaggio dei seni carotidei: normoreflessia senocarotidea
- Ricerca di ipotensione ortostatica: negativa
- Tilt test: positivo, forma vasovagale mista. Riproduzione dei sintomi.
- ABPM: valori pressori medi tendenzialmente ridotti (PAS/PAD medie diurne 105/65 mmHg), con alcuni episodi ipotensivi (PAS 80 mmHg)

# DOMANDA NUMERO 3: COSA FARE?

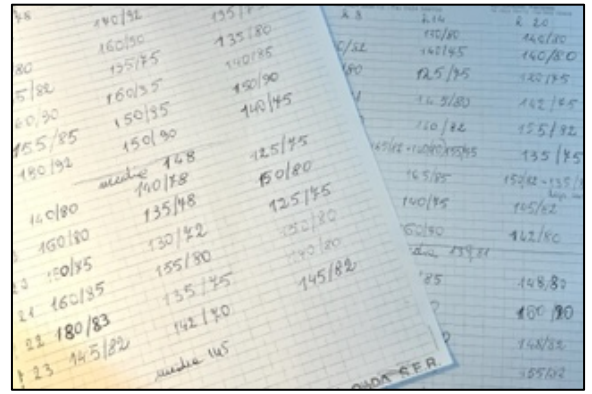
A) Impianto di pacemaker definitivo bicamerale
B) Sospensione della terapia antipertensiva
C) Impianto di loop recorder
D) Misure cautelative e manovre isometriche di contropressione
E) Midodrina

# DIMISSIONE

- Paziente dimesso al domicilio in assenza di terapia antipertensiva
- Iniziata terapia anticoagulante orale (CHADSVASC 3)
- Consegnato diario pressorio con educazione alla rilevazione giornaliera dei valori pressori
- Indicato target pressorio per la PAS tra 140 e 150 mmHg e per la PAD < 90 mmHg (possibilità di contatto telefonico in caso di valori eccessivamente elevati dopo 4 giorni senza terapia)
- Visita di controllo a un mese con ABPM e riconsegna diario pressorio

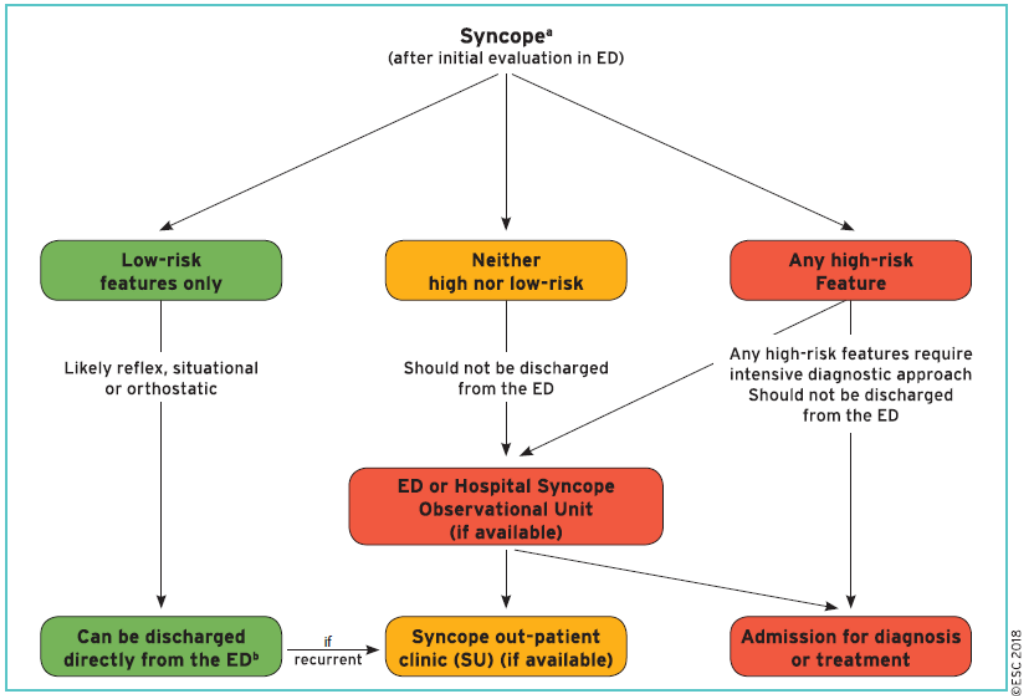
# FOLLOW UP

- Diario pressorio: valori pressori medi domiciliari di 147/88 mmHg
- ABPM: valori pressori medi di 144/93 mmHg (diurni 147/95 mmHg), non più picchi ipotensivi, 3 picchi ipertensivi con PA 170-180/100-105 mmHg
- Ricominciata terapia antipertensiva a basso dosaggio (ramipril 2.5 mg/die)
- Follow up ad un anno: non recidive di sincope o presincope, valori pressori medi nei range raccomandati. Riscontro occasionale di FA normofrequente, del tutto asintomatica.




GRAZIE
PER L'ATTENZIONE

# CORSO TEORICO-PRATICO GIMSI-SIIA
# "GESTIONE DEL PAZIENTE IPERTESO CON SINCOPE"




| ECG[a] | |
|---|---|
| **Low-risk** | |
| • Normal ECG[26, 35, 36, 55] | |
| **High-risk** | |
| **Major** | **Minor** (high-risk only if history consistent with arrhythmic syncope) |
| • ECG changes consistent with acute ischaemia<br>• Mobitz II second- and third-degree AV block<br>• Slow AF (<40 b.p.m.)<br>• Persistent sinus bradycardia (<40 b.p.m.), or repetitive sinoatrial block or sinus pauses >3 seconds in awake state and in absence of physical training<br>• Bundle branch block, intraventricular conduction disturbance, ventricular hypertrophy, or Q waves consistent with ischaemic heart disease or cardiomyopathy[44, 56] | • Mobitz I second-degree AV block and 1°degree AV block with markedly prolonged PR interval<br>• Asymptomatic inappropriate mild sinus bradycardia (40–50 b.p.m.), or slow AF (40–50 b.p.m.)[56]<br>• Paroxysmal SVT or atrial fibrillation[50]<br>• Pre-excited QRS complex<br>• Short QTc interval (≤340 ms)[46]<br>• Atypical Brugada patterns[46] |

| Favour initial management in ED observation unit and/or fast-track to syncope unit | Favour admission to hospital |
|---|---|
| **High-risk features AND:**<br>• Stable, known structural heart disease<br>• Severe chronic disease<br>• Syncope during exertion<br>• Syncope while supine or sitting<br>• Syncope without prodrome<br>• Palpitations at the time of syncope<br>• Inadequate sinus bradycardia or sinoatrial block<br>• Suspected device malfunction or inappropriate intervention<br>• Pre-excited QRS complex<br>• SVT or paroxysmal atrial fibrillation<br>• ECG suggesting an inheritable arrhythmogenic disorders<br>• ECG suggesting ARVC | **High-risk features AND:**<br>• Any potentially severe coexisting disease that requires admission<br>• Injury caused by syncope<br>• Need of further urgent evaluation and treatment if it cannot be achieved in another way (i.e. observation unit), e.g. ECG monitoring, echocardiography, stress test, electrophysiological study, angiography, device malfunction, etc.<br>• Need for treatment of syncope |

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## Electrophysiological study

| Recommendations | Class[a] | Level[b] |
|---|---|---|
| **Indications** | | |
| In patients with syncope and previous myocardial infarction, or other scar-related conditions, EPS is indicated when syncope remains unexplained after non-invasive evaluation.[218] | I | B |
| In patients with syncope and bifascicular BBB, EPS should be considered when syncope remains unexplained after non-invasive evaluation.[188,214–217,221] | IIa | B |
| In patients with syncope and asymptomatic sinus bradycardia, EPS may be considered in a few instances when non-invasive tests (e.g. ECG monitoring) have failed to show a correlation between syncope and bradycardia.[210–212] | IIb | B |
| In patients with syncope preceded by sudden and brief palpitations, EPS may be considered when syncope remains unexplained after non-invasive evaluation. | IIb | C |

dopaminergic drugs, is key in the prevention of recurrence of syncope. In a small randomized trial[260] performed in 58 patients (mean age 74 ± 11 years) affected by vasodepressor reflex syncope diagnosed by tilt testing or CSM, who were taking on average 2.5 hypotensive drugs, discontinuation or reduction of the vasoactive therapy caused a reduction of the rate of the primary combined endpoint of syncope, presyncope, and adverse events from 50 to 19% (hazard ratio 0.37) compared with a control group who continued hypotensive therapy during a follow-up of 9 months. In the Systolic Blood Pressure Intervention Trial,[261] patients at high cardiovascular risk who were already using antihypertensive drugs targeting a systolic BP of 120 mmHg had an approximately two-fold risk of syncope vs. the control group targeting a systolic BP of 140 mmHg. In a short-term randomized trial[262] conducted in 32 patients affected by CSS, withdrawal of vasodilator therapy reduced the magnitude of the vasodepressor reflex induced by CSM.

***There is moderate evidence that discontinuation/reduction of hypotensive therapy targeting a systolic BP of 140 mmHg should be effective in reducing syncopal recurrences in patients with hypotensive susceptibility. Further research is likely to have an important impact on our confidence in the estimate.***

| Discontinuation/reduction of hypotensive therapy | | |
|---|---|---|
| Modification or discontinuation of hypotensive drug regimen should be considered in patients with vasodepressor syncope, if possible.[260–262] | IIa | B |


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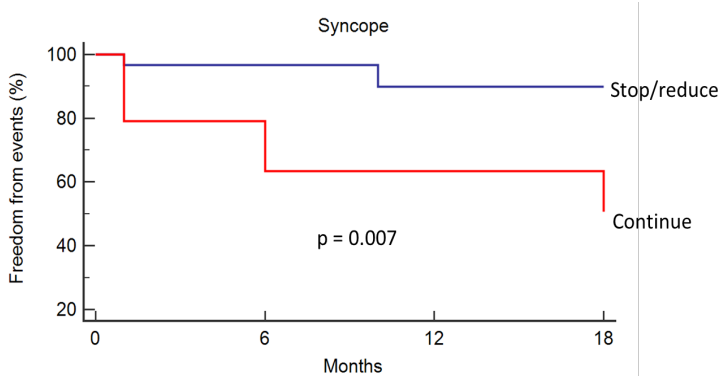
ORIGINAL ARTICLE

## Stop vasodepressor drugs in reflex syncope: a randomised controlled trial

Diana Solari,[1] Francesca Tesi,[2] Matthias Unterhuber,[3] Germano Gaggioli,[4] Andrea Ungar,[2] Marco Tomaino,[3] Michele Brignole[1]




### Key messages

**What is already known on this subject?**
Many elderly patients affected by reflex vasodepressor syncope take one or more hypotensive drugs for hypertension, structural heart disease, neurological and psychiatric diseases. Although it is generally believed that vasoactive drugs may have a role in causing vasodepressor reflex syncope, no study has yet evaluated the long-term effects of discontinuation or reduction of such therapies.

**What might this study add?**
Recurrence of syncope, presyncope could be reduced discontinuing/reducing vasoactive therapy with an HR of 0.22 for syncope and 0.40 for syncope and/or presyncope. Hypertension remained well controlled and few adverse events occurred.

**How might this impact on clinical practice?**
In old patients with vasodepressor reflex syncope and low/normal blood pressure (BP) values, we modified vasoactive therapy in order to achieve 'not too high, nor too low' systolic BP value of 140 mm Hg.

| Discontinuation/reduction of hypotensive therapy | | |
|---|---|---|
| Modification or discontinuation of hypotensive drug regimen should be considered in patients with vasodepressor syncope, if possible | IIa | B |

- ✓ Antihypertensive agents
- ✓ Nitrates
- ✓ Diuretics
- ✓ Neuroleptic antidepressants
- ✓ L-dopa antagonists

→ strategy of **accurate BP control**, aimed to achieve average systolic BP values **around 140 mmHg but below 150 mmHg**

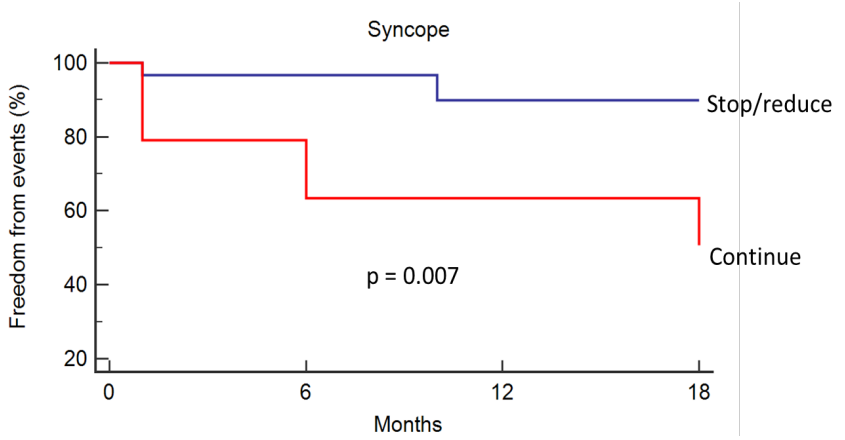
***'NOT TOO HIGH, NOT TOO LOW'***

## Stop vasodepressor drugs in reflex syncope: a randomised controlled trial

Diana Solari,[1] Francesca Tesi,[2] Matthias Unterhuber,[3] Germano Gaggioli,[4] Andrea Ungar,[2] Marco Tomaino,[3] Michele Brignole[1]

**STOP-VD**

*Heart. 2017 Mar;103(6):449-455.*



# DISCONTINUATION OF HYPOTENSIVE DRUGS IN THE SYNCOPE UNIT OF LAVAGNA

- ≥2 episodes of reflex syncope during the previous year
- 1 or more vasoactive drug (**antihypertensive agents, nitrates, diuretics, neuroleptic antidepressants or L-dopa antagonists**)

positivity of **TILT TABLE TEST** and/or **CSM** for a **VD FORM**
or
presence of **ORTHOSTATIC SYMPTOMATIC HYPOTENSION**

No other possible causes of syncope; no severe structural heart disease; no severe hypertension poorly controlled with ongoing therapies; no previous transient cerebral ischemic attack or stroke.

**GLOBAL STRATEGY OF MANAGEMENT OF SYNCOPE**
**SUBGROUP STOP VD (STOP VASODEPRESSOR DRUGS)**

Solari D, Tesi F, Unterhuber M, Gaggioli G, Ungar A, Tomaino M, Brignole M. Stop vasodepressor drugs in reflex syncope: a randomised controlled trial. *Heart* 2017;**103**:449–455.

# DISCONTINUATION OF HYPOTENSIVE DRUGS IN THE SYNCOPE UNIT OF LAVAGNA – STOP VD

Initial evaluation + orthostatic challenge + TTT + CSM
Diagnosis of hypotensive syncope in patient in therapy with vasoactive drugs
24 hours BP continuous monitoring

↓

**STOP VASOACTIVE DRUGS**

↓

**1-MONTH PERIOD OF THERAPY OPTIMIZATION**

Daily BP diary
Weekly phone contact
Tritation of drugs if needed

↓

**1-MONTH VISIT**

24 hours BP continuous monitoring
Tritation of drugs if needed

↓

**FOLLOW UP**

With visit or phone contact every 6 months or when needed

*TARGET average systolic BP values 140 - 150 mmHg*

*'NOT TOO HIGH, NOT TOO LOW'*

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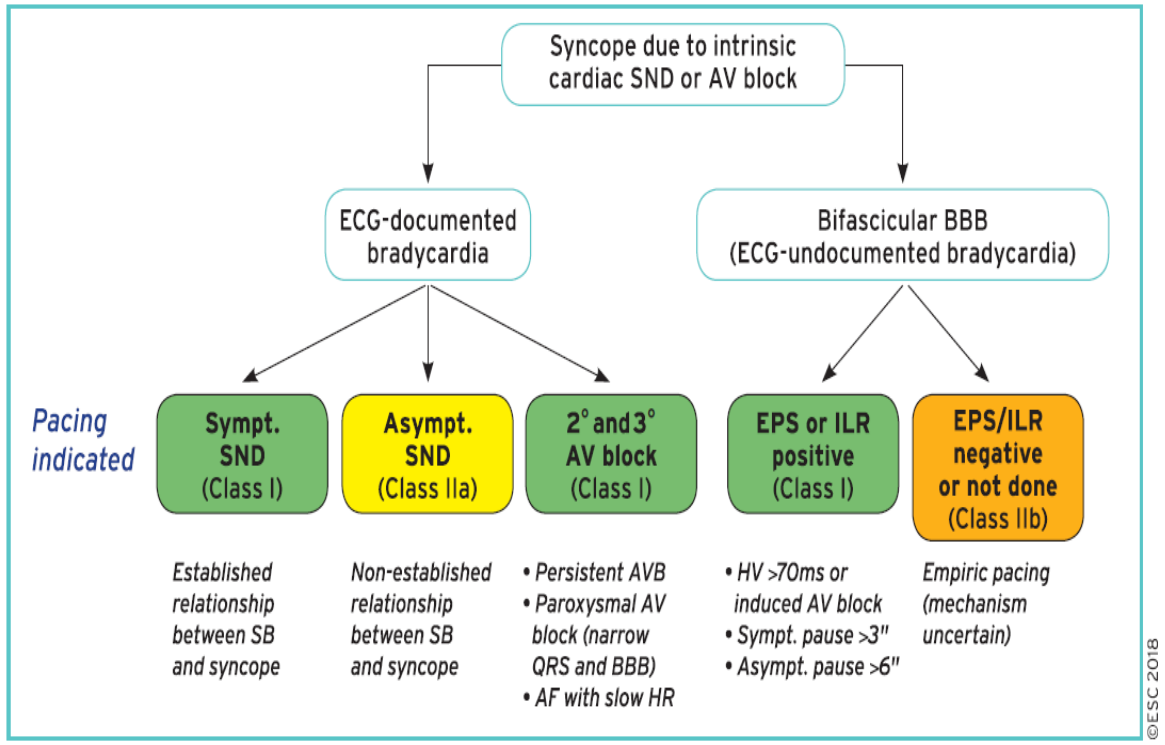


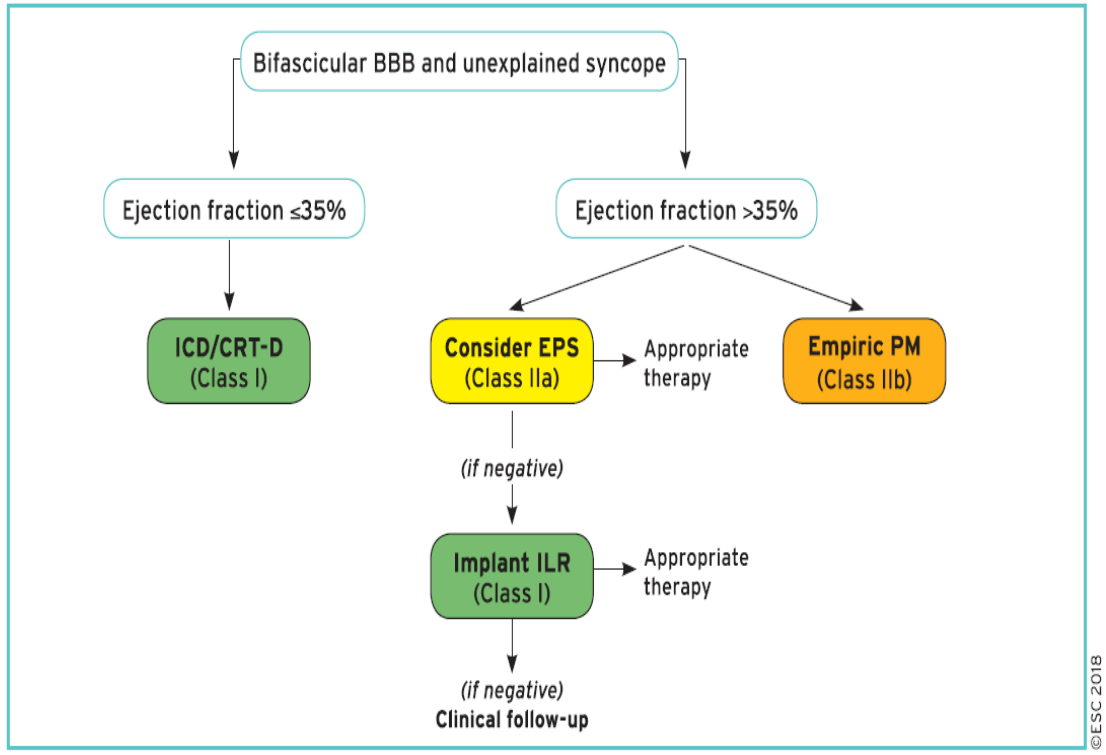

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Short communication

## Low incidence of arrhythmic syncope and pacemaker implantation in older patients with bifascicular block and implantable cardiac monitor

Carlo Fumagalli [a,*,1], Martina Rafanelli [a,1], Michele Brignole [a,b], Caterina Guarducci [a], Niccolò Bettoni [a], Giulia Rivasi [a], Paolo Pieragnoli [c], Giuseppe Ricciardi [c], Luca Checchi [c], Marco Gambardella [c], Flavia Casolaro [d], Giuseppe Paolisso [d,e], Raffaele Marfella [d,e], Giuseppe Signoriello [f], Niccolò Marchionni [a], Andrea Ungar [a], Celestino Sardu [d]

**5. Conclusions**

The mechanism of syncope in older patients with BFB is heterogeneous, being non-arrhythmic in most of them. Early direct PM implantation, before ECG documentation of the mechanism, should be discouraged because of the high risk of ineffectiveness and, hence, of clinical futility. Our findings support that these patients should be managed through a multiparametric approach, which includes prolonged cardiac monitoring and a careful assessment of non-cardiac causes of syncope.

JACC: Clinical Electrophysiology

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New Research Paper

CIED

## Randomized Pragmatic Trial of Pacemaker Versus Implantable Cardiac Monitor in Syncope and Bifascicular Block

Robert Sheldon MD, PhD [a], Mario Talajic MD [b], Anthony Tang MD [c], Giuliano Becker MD [d], Vidal Essebag MD, PhD [e], Omar Sultan MD [f], Adrian Baranchuk MD [g], Debbie Ritchie MN [a], Carlos Morillo MD [a], Andrew Krahn MD [h], Michele Brignole MD [i], Braden Manns MD, MSc [a], Connor Maxey BSc [a], Satish R. Raj MD, MSCI [a], SPRITELY Investigators

### Conclusions

Empiric permanent pacing compared with ICM reduced major adverse events but not syncope in older patients with bifascicular block and recent syncope. There remains a substantial likelihood of syncope recurrence in patients who receive a permanent pacemaker likely caused by vasodepressor syncope. (Syncope: Pacing or Recording in the Later Years [SPRITELY]; NCT01423994)

## Long-Term Outcome of Patients with Bifascicular Block and Unexplained Syncope Following Cardiac Pacing

MATTHEW M. KALSCHEUR, M.D.,* PAOLO DONATEO, M.D.,† KEVIN E. WENZKE, M.D.,* MILENA ASTE, M.D.,† DANIELE ODDONE, M.D.,† ALBERTO SOLANO, M.D.,† ROBERTO MAGGI, M.D.,† FRANCESCO CROCI, M.D.,† RICHARD L. PAGE, M.D.,* MICHELE BRIGNOLE, M.D.,† and MOHAMED H. HAMDAN, M.D., M.B.A.*

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### Discussion

We have shown that syncope recurs in 16% of patients with BF-B who received a PM for the treatment of presumed cardiac syncope, suggesting that other mechanisms beside AVB are at play despite the presence of baseline BF-B. Syncope recurrence was limited to patients who received empiric cardiac pacing. To the contrary, pacing was highly effective in preventing syncope recurrence in patients who received a PM following a positive EPS or documentation of AVB during ILR monitoring. The latter finding highly suggests that the EPS/ILR approach is more effective in identifying the appropriate candidates for pacing.

## Management of older patients with unexplained, recurrent, traumatic syncope and bifascicular block: Implantable loop recorder versus empiric pacemaker implantation—Results of a propensity-matched analysis

Pietro Palmisano, MD,* Federico Guerra, MD,† Vittorio Aspromonte, MD,‡ Gabriele Dell'Era, MD,§ Pier Luigi Pellegrino, MD,¶ Mattia Laffi, MD,‖ Carlo Uran, MD,** Silvana De Bonis, MD,†† Michele Accogli, MD,* Antonio Dello Russo, MD, PhD,† Giuseppe Patti, MD,‡‡ Francesco Santoro, MD, PhD,§§ Antonella Torriglia, MD,‖ Gerardo Nigro, MD, PhD,¶¶ Antonio Bisignani, MD,‖‖ Giovanni Coluccia, MD,* Giulia Stronati, MD,† Vincenzo Russo, MD, PhD,¶¶ Ernesto Ammendola, MD¶¶

### Conclusion

The results of this multicenter, prospective, observational study showed that, after adjustment for patient characteristics, empiric PM implantation significantly reduced the risk of syncope recurrence in comparison with ILR monitoring in a population of elderly patients with BFB and recurrent, traumatic syncope that remained unexplained after an extensive diagnostic workup. Patients who underwent ILR monitoring, in addition to having a higher risk of syncope recurrence, had a high probability of developing bradyarrhythmias that prompted PM implantation.

In the US guidelines on cardiac pacing,[12] ambulatory ECG monitoring (Class I with level of evidence C) and electrophysiological study (Class IIa with level of evidence B) are indicated in patients with BFB and symptoms suggestive of intermittent bradycardia, in order to demonstrate intermittent AV block, whereas in the European guidelines,[10] empiric PM implantation may be considered an alternative to long-term continuous ECG monitoring in elderly, frail patients with unexplained traumatic syncope and BFB (Class IIb with level of evidence B).

Although our findings come from an observational study, they suggest that empiric PM implantation in the specific setting of elderly patients with recurrent, unexplained, traumatic syncope should be considered a means of preventing the recurrence of symptomatic events. Because of the observational nature of this study, residual confounding variables cannot be excluded, so further randomized studies are necessary in order to confirm the study findings.