STANDARD TREATMENT WORKFLOW (STW)

Bardyarrthymias in Symptomatic Patients

S. K. Dwivedi[1], George Joseph[2], Aditya Kapoor[3], G Karthikeyan[4], Paul V George[5], Santhosh Satheesh[6], Saurabh Mehrotra[7], Praveen Chandra[8], Amit M Vora[9], Calambur Narasinhan[10], Paul V George[11], Praveen Chandra[12]

[1]King George's Medical University, Lucknow;[2]Christian Medical College Vellore;[3]Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow;[4]All India Institute of Medical Sciences, New Delhi.;[5]Christian Medical College Vellore;[6]Jawaharlal Institute of Postgraduate Medical Education and Research, Pondycherry;[7]Postgraduate Institute of Medical Education and Research, Chandigarh;[8]Medanta, Gurgaon;[9]Reliance, Mumbai.;[10]CARE, Hyderabad;[11]Christian Medical College Vellore;[12]Medanta, Gurgaon

CORRESPONDING AUTHOR

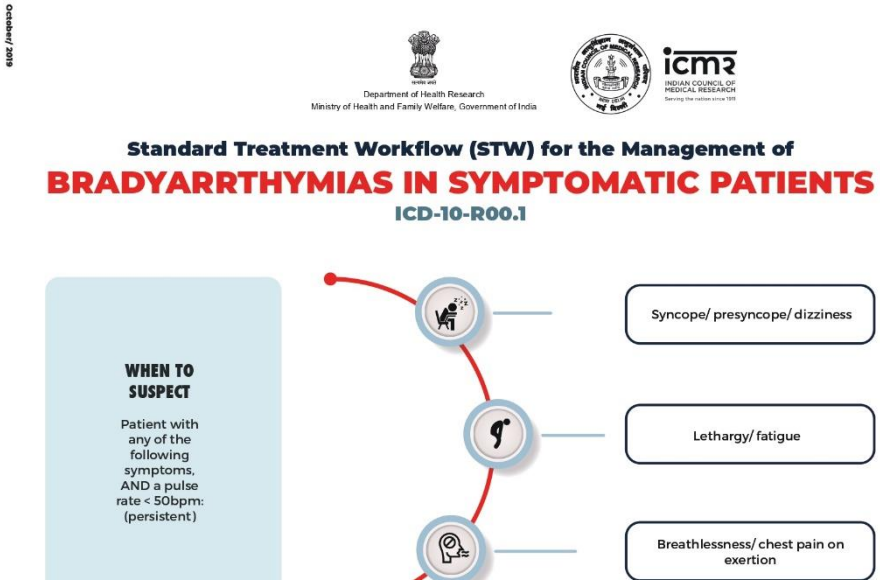
Dr SK Dwivedi, King George's Medical University, Lucknow

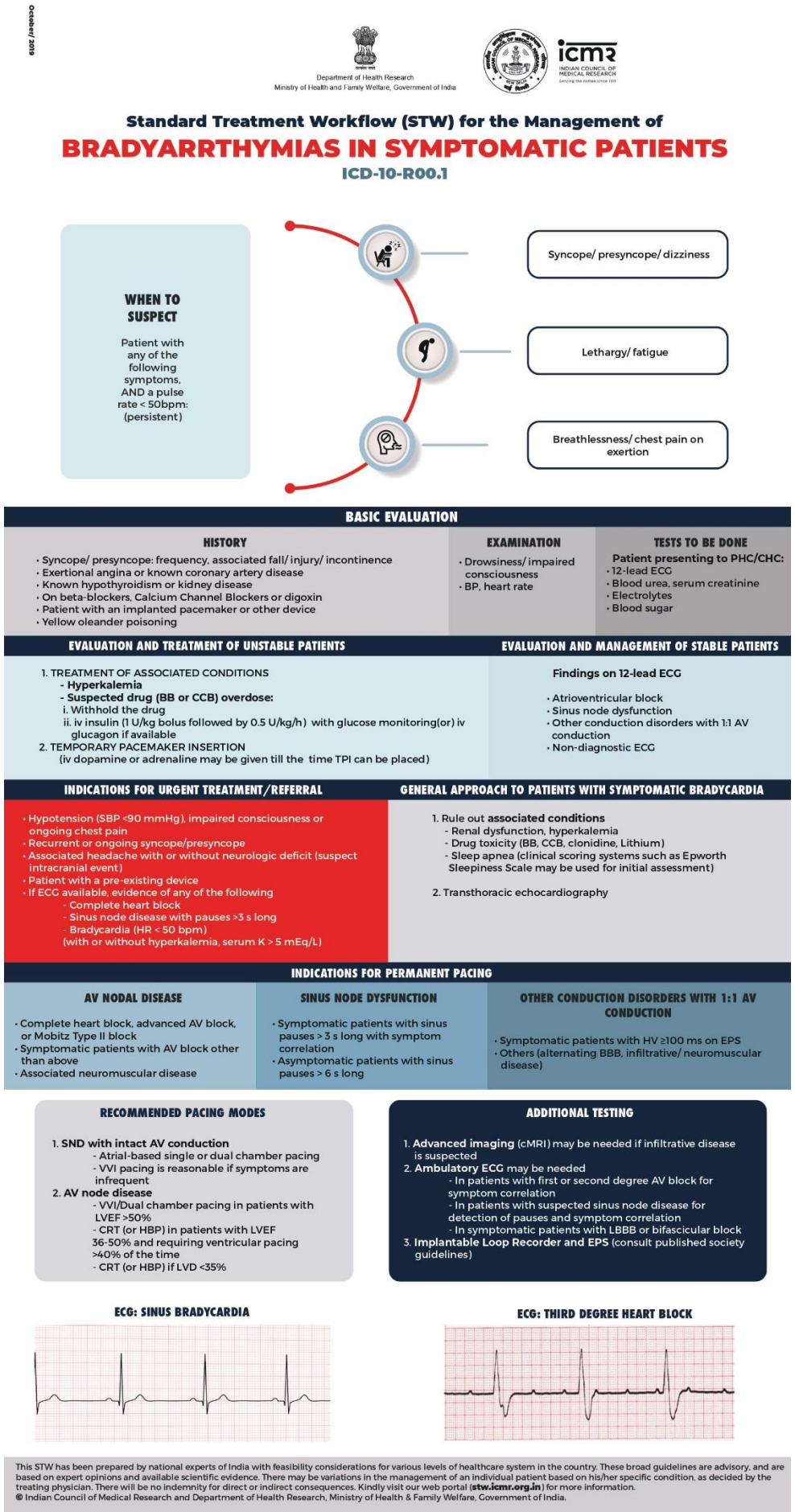
Email: drskdwivedi60@gmail.com

CITATION

Dwivedi SK, Joseph G, Kapoor A, Karthikeyan G, George PV, Satheesh S, Mehrotra S, Chandra P, Vora AM, Narasinhan C, George PV, Chandra P. Bardyarrthymias in Symptomatic Patients. Journal of the Epidemiology Foundation of India. 2024;2(1Suppl):S205-S206.

DOI: https://doi.org/10.56450/JEFI.2024.v2i1Suppl.103




october/ 2019
Department of Health Research
Ministry of Health and Family Welfare, Government of India
icmr
INDIAN COUNCIL OF MEDICAL RESEARCH
Standard Treatment Workflow (STW) for the Management of
BRADYARRTHYMIAS IN SYMPTOMATIC PATIENTS
ICD-10-R00.1
WHEN TO SUSPECT
Patient with any of the following symptoms, AND a pulse rate < 50bpm: (persistent)
Syncope/ presyncope/ dizziness
Lethargy/ fatigue
Breathlessness/ chest pain on exertion
BASIC EVALUATION
HISTORY
• Syncope/ presyncope: frequency, associated fall/ injury/ incontinence
• Exertional angina or known coronary artery disease
• Known hypothyroidism or kidney disease
• On beta-blockers, Calcium Channel Blockers or digoxin
• Patient with an implanted pacemaker or other device
• Yellow oleander poisoning
EXAMINATION
• Drowsiness/ impaired consciousness
• BP, heart rate
TESTS TO BE DONE
Patient presenting to PHC/CHC:
• 12-lead ECG
• Blood urea, serum creatinine
• Electrolytes
• Blood sugar
EVALUATION AND TREATMENT OF UNSTABLE PATIENTS
1. TREATMENT OF ASSOCIATED CONDITIONS
- Hyperkalemia
- Suspected drug (BB or CCB) overdose:
i. Withhold the drug
ii. iv insulin (1 U/kg bolus followed by 0.5 U/kg/h) with glucose monitoring(or) iv glucagon if available
2. TEMPORARY PACEMAKER INSERTION
(iv dopamine or adrenaline may be given till the time TPI can be placed)
EVALUATION AND MANAGEMENT OF STABLE PATIENTS
Findings on 12-lead ECG
• Atrioventricular block
• Sinus node dysfunction
• Other conduction disorders with 1:1 AV conduction
• Non-diagnostic ECG
INDICATIONS FOR URGENT TREATMENT/REFERRAL
• Hypotension (SBP <90 mmHg), impaired consciousness or ongoing chest pain
• Recurrent or ongoing syncope/presyncope
• Associated headache with or without neurologic deficit (suspect intracranial event)
• Patient with a pre-existing device
• If ECG available, evidence of any of the following
- Complete heart block
- Sinus node disease with pauses >3 s long
- Bradycardia (HR < 50 bpm)
(with or without hyperkalemia, serum K > 5 mEq/L)
GENERAL APPROACH TO PATIENTS WITH SYMPTOMATIC BRADYCARDIA
1. Rule out associated conditions
- Renal dysfunction, hyperkalemia
- Drug toxicity (BB, CCB, clonidine, Lithium)
- Sleep apnea (clinical scoring systems such as Epworth Sleepiness Scale may be used for initial assessment)
2. Transthoracic echocardiography
INDICATIONS FOR PERMANENT PACING
AV NODAL DISEASE
• Complete heart block, advanced AV block, or Mobitz Type II block
• Symptomatic patients with AV block other than above
• Associated neuromuscular disease
SINUS NODE DYSFUNCTION
• Symptomatic patients with sinus pauses > 3 s long with symptom correlation
• Asymptomatic patients with sinus pauses > 6 s long
OTHER CONDUCTION DISORDERS WITH 1:1 AV CONDUCTION
• Symptomatic patients with HV ≥100 ms on EPS
• Others (alternating BBB, infiltrative/ neuromuscular disease)
RECOMMENDED PACING MODES
1. SND with intact AV conduction
- Atrial-based single or dual chamber pacing
- VVI pacing is reasonable if symptoms are infrequent
2. AV node disease
- VVI/Dual chamber pacing in patients with LVEF >50%
- CRT (or HBP) in patients with LVEF 36-50% and requiring ventricular pacing >40% of the time
- CRT (or HBP) if LVD <35%
ADDITIONAL TESTING
1. Advanced imaging (cMRI) may be needed if infiltrative disease is suspected
2. Ambulatory ECG may be needed
- In patients with first or second degree AV block for symptom correlation
- In patients with suspected sinus node disease for detection of pauses and symptom correlation
- In symptomatic patients with LBBB or bifascicular block
3. Implantable Loop Recorder and EPS (consult published society guidelines)
ECG: SINUS BRADYCARDIA
ECG: THIRD DEGREE HEART BLOCK
This STW has been prepared by national experts of India with feasibility considerations for various levels of healthcare system in the country. These broad guidelines are advisory, and are based on expert opinions and available scientific evidence. There may be variations in the management of an individual patient based on his/her specific condition, as decided by the treating physician. There will be no indemnity for direct or indirect consequences. Kindly visit our web portal (stw.icmr.org.in) for more information.
© Indian Council of Medical Research and Department of Health Research, Ministry of Health & Family Welfare, Government of India.