

# Multiple Choice Questions.

- 1- Which of the following medications is used in the treatment of angina and heart failure, and **selectively blocks the I<sub>f</sub> current** in sino-atrial cells?
  - a) Ivabradine
  - b) Ranolazine
  - c) Trimetazidine
  - d) Nicorandil
  
- 2- What is the main mechanism of action of Ranolazine in the treatment of angina?
  - a) Selective inhibition of beta-adrenergic receptors
  - b) Inhibition of calcium influx into myocardial cells
  - c) Inhibition of fatty acid oxidation
  - d) Inhibition of late inward sodium current
  
- 3- Which of the following medications is known for its nitrate-like effects and activation of ATP-sensitive potassium channels?
  - a) Ivabradine
  - b) Ranolazine
  - c) Trimetazidine
  - d) Nicorandil
  
- 4- What is the main adverse effect associated with Ivabradine?
  - a) Tachycardia
  - b) Luminous phenomena
  - c) Extrapyramidal symptoms
  - d) Gastrointestinal ulcers

- 5- Ranolazine is contraindicated in patients with:
- a) Liver disease
  - b) Parkinson's disease
  - c) Restless leg syndrome
  - d) Hypertension
- 6- Which of the following medications is considered a second-line option for the treatment of stable angina?
- a) Ivabradine
  - b) Ranolazine
  - c) Trimetazidine
  - d) Nicorandil
- 7- What is the primary mechanism of action of Trimetazidine?
- a) Inhibition of sodium influx into myocardial cells
  - b) Stimulation of glucose consumption by the myocardium
  - c) Inhibition of beta-adrenergic receptors
  - d) Activation of ATP-sensitive potassium channels
- 8- Which of the following medications has the potential to cause gastrointestinal, skin, and mucosal ulcers?
- a) Ivabradine
  - b) Ranolazine
  - c) Trimetazidine
  - d) Nicorandil
- 9- What is the main effect of Ivabradine on the heart rate?
- a) Increase heart rate
  - b) No effect on heart rate
  - c) Decrease heart rate
  - d) Irregular heart rate
- 10- Trimetazidine inhibits the oxidation of which substrate in the heart?
- a) Glucose
  - b) Fatty acids
  - c) Lactate
  - d) Pyruvate

11- Which of the following medications is known for its tissue-selective activity on the heart and eyes?

- a) Ivabradine
- b) Ranolazine
- c) Trimetazidine
- d) Nicorandil

12- Which of the following medications is known for its metabolic modulation effects?

- a) Ivabradine
- b) Ranolazine
- c) Trimetazidine
- d) Nicorandil

13- What is the primary mechanism of action of Nicorandil in the treatment of angina?

- a) Inhibition of sodium influx
- b) Activation of ATP-sensitive potassium channels
- c) Inhibition of calcium influx
- d) Stimulation of beta-adrenergic receptors

14- What is the main adverse effect associated with Trimetazidine?

- a) Bradycardia
  - b) Luminous phenomena
  - c) Extrapyrmidal symptoms
  - d) Gastrointestinal ulcers
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## Answers:

1. a) Ivabradine
2. d) Inhibition of late inward sodium current.
3. d) Nicorandil
4. **b) Luminous phenomena**
5. a) Liver disease
  
6. d) Nicorandil
7. b) Stimulation of glucose consumption by the myocardium
8. d) Nicorandil
9. c) Decrease heart rate
10. b) Fatty acids
11. a) Ivabradine (As an adverse effect, ivabradine can cause luminous phenomena.)
12. c) Trimetazidine
13. b) Activation of ATP-sensitive potassium channels
14. c) Extrapyramidal symptoms

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Thank you and Good Luck (: