

DTB CME/CPD Answers



Drug and Therapeutics Bulletin

▼ Sacubitril valsartan for heart failure

Question 1

Heart failure is a complex clinical syndrome associated with abnormalities in cardiac structure, function and neurohormonal activation. What was the 5-year mortality rate reported in England and Wales in 2013-2014?

- a. 10%
- b. 20%
- c. 30%
- d. 40%
- e. 50%

Answer: e. The prognosis is poor, with a 5-year mortality rate of 50% and a 1-year mortality rate of 27% recorded in England and Wales in 2013-2014.

Question 3

Sacubitril valsartan should not be used with an ACE inhibitor because of the risk of angioedema. What is the minimum time that an ACE inhibitor should be stopped before starting sacubitril valsartan?

- a. 8 hours
- b. 16 hours
- c. 24 hours
- d. 36 hours
- e. 72 hours

Answer: d. Treatment with an ACE inhibitor should be stopped at least 36 hours before starting sacubitril valsartan.

Question 2

Sacubitril valsartan is a new oral drug licensed for the treatment of chronic heart failure in adults with reduced ejection fraction. The active metabolite of sacubitril inhibits which one of the following enzymes?

- a. angiotensin converting enzyme
- b. dipeptidyl carboxypeptidase
- c. neprilysin
- d. chymase
- e. trypsin

Answer: c. The active metabolite of sacubitril inhibits the enzyme neprilysin, an endopeptidase that degrades vasoactive natriuretic peptides, bradykinin and angiotensin II.

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Question 4

The PARADIGM-HF study evaluated the efficacy of sacubitril valsartan compared with enalapril in patients with chronic heart failure. Based on the results for the primary composite outcome of cardiovascular mortality or first hospitalisation for heart failure, how many people would need to be treated for 27 months with sacubitril valsartan instead of enalapril to avoid one event?

- a. 5
- b. 12
- c. 21
- d. 27
- e. 35

Answer: c. The trial was stopped after a median follow-up of 27 months when an interim efficacy analysis showed the superiority of sacubitril valsartan over enalapril. The absolute risk of cardiovascular death or first hospitalisation for heart failure was reduced by 4.7% (21.8% vs. 26.5%; hazard ratio [HR] 0.80, 95% CI 0.73 to 0.87, $p < 0.001$). Based on this result, 21 people would need to be treated with sacubitril valsartan instead of enalapril for 27 months to avoid one event.

Question 5

For which one of the following adverse effects was the difference between sacubitril valsartan and enalapril statistically significant?

- a. cough
- b. hyperkalaemia
- c. renal impairment
- d. symptomatic hypotension
- e. angioedema

Answer: d. Symptomatic hypotension was more common with sacubitril valsartan compared with enalapril (16.7% vs. 10.6%, $p < 0.001$). It occurred mostly in people older than 65 years, with renal disease and patients with low systolic blood pressure at baseline (< 112 mmHg).