**Heart Failure**

1. Regarding statistics associated with heart failure:
   - a) It is the cause of one in 10 hospital admissions in the UK.
   - b) Around 1% of the UK’s total healthcare expenditure is spent treating hospital admissions for heart failure.
   - c) Some 50% of patients die within four years of diagnosis.
   - d) It affects 10% of the UK population.
   - e) It is more prevalent in women than men.

2. Angiotensin-converting enzyme (ACE) inhibitors:
   - a) Block the conversion of angiotensinogen to angiotensin I.
   - b) Reduce mortality in patients with heart failure caused by left ventricular systolic dysfunction by about 35%.
   - c) Should only be prescribed for heart failure patients who are experiencing symptoms.
   - d) Should be started at a low dose and titrated up.
   - e) Are contraindicated for patients with raised levels of creatinine.

3. The causes of heart failure include:
   - a) Hypotension.
   - b) Breathlessness.
   - c) Congenital heart disease.
   - d) Myocardial infarction.
   - e) Alcohol.

4. Regarding the renin-angiotensin-aldosterone system (RAAS):
   - a) It is targeted by medicines that can improve the long-term prognosis of heart failure patients.
   - b) It is stimulated by hypervolaemia and increased renal blood flow.
   - c) It can cause peripheral vasoconstriction.
   - d) Its activation can reduce the symptoms of heart failure in the short term.
   - e) Angiotensin I directly stimulates the release of aldosterone.

5. Regarding diagnostic techniques:
   - a) An abnormal ECG is essential for diagnosing heart failure.
   - b) Chest X-ray is an important diagnostic tool that can also be helpful in monitoring treatment response.
   - c) Spirometry can be used to exclude other causes of breathlessness.
   - d) Echocardiography can assess the extent of left ventricular dysfunction.
   - e) Cardiac catheterisation is used routinely to diagnose heart failure.

6. Concerning B-type natriuretic peptides (BNPs):
   - a) They are excreted primarily by the atria.
   - b) They are released in response to ventricular stretching or wall tension.
   - c) They can be useful for monitoring the success of heart failure treatment.
   - d) BNP testing is highly cost effective.
   - e) A high BNP level, in combination with raised troponin, is a strong indicator for heart failure.

7. The signs and symptoms of heart failure include:
   - a) Ankle swelling.
   - b) Reduced jugular venous pressure.
   - c) Raised energy levels.
   - d) Pulmonary rales.
   - e) Tachycardia.

8. Aldosterone antagonists:
   - a) Prevent the RAAS from stimulating noradrenaline release.
   - b) Reduce all-cause mortality in heart failure patients to 46%.
   - c) Commonly cause hyperkalaemia.
   - d) Can cause gynaecomastia.
   - e) Are used to treat heart failure patients who experience frequent episodes of acute fluid overload.

9. Regarding the treatment of heart failure:
   - a) Beta-blockers are contraindicated for patients with a systolic blood pressure above 90mmHg.
   - b) Angiotensin-II receptor blockers and ACE inhibitors should never be co-prescribed.
   - c) Candesartan is the only ARB licensed to treat chronic heart failure.
   - d) The doses of beta-blockers used to treat heart failure are lower than those used to treat angina.
   - e) Diuretics help to manage day-to-day symptoms.

10. Lifestyle interventions that can improve heart failure include:
    - a) Restricting salt intake.
    - b) Reducing physical exercise.
    - c) Increasing intake of fruits that contain high levels of potassium.
    - d) Weight loss (if overweight).
    - e) Smoking cessation.