Welcome to our CPD module series for community pharmacy technicians. Written in conjunction with the Pharmacy Magazine CPD series, it will mirror the magazine’s programme throughout the year. The series has been designed for you to use as part of your continuing professional development. Reflection exercises have been included to help start you off in the CPD learning cycle.

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Definition of heart failure

Guidelines from the European Society of Cardiology define heart failure as a clinical syndrome in which patients present the following key features:

1. Symptoms such as breathlessness at rest or with exercise; fatigue; tiredness; ankle swelling
2. Signs such as tachycardia (rapid heart rate), tachypnoea (rapid breathing), pulmonary rales (crackles heard in the lungs), pleural effusion (excess fluid around the lung), raised jugular venous pressure (raised pressure in the veins in the neck), peripheral oedema (swelling of the feet and ankles), hepatomegaly (abnormal enlargement of the liver)
3. Objective evidence of structural or functional abnormality of the heart at rest.

Community pharmacists are well placed to support patients and to derive the maximum benefits for the patient by ensuring that:

• Describe the signs and symptoms of chronic heart failure
• Discuss optimised therapies and classes of medicines used to manage chronic heart failure
• Provide lifestyle advice for patients with chronic heart failure.

Pharmacological treatment

There is a wealth of evidence from a large number of high-quality clinical trials to support the use of pharmacological therapy in all stages of heart failure. Treatment can improve quality of life by improving symptoms or slowing their deterioration, reducing admissions and re-admissions to hospital and, in some cases, by reducing mortality. Community pharmacists are well placed to support patients and to derive the maximum benefits for the patient by ensuring that:

• Correct evidence-based medicines are prescribed
• Doses are increased (i.e. titrated upwards) to the maximum tolerated or target doses
• Patients are counselled on monitoring the effectiveness of medicines
• Patients are counselled on side effects and how to monitor and reduce them
• Patients are supported to fit their medicines around their daily routine
• Patients are empowered to self-manage their condition
• Any of the patients’ concerns are answered.

It is very important to be clear about the plan that the prescriber agreed with the patient to avoid providing contradictory or confusing information. Therefore liaising with the multi-disciplinary team looking after the patient is essential. This includes the heart failure nurses, cardiology pharmacists and GPs.
Diuretic therapy

Improving the management of fluid retention can minimise symptoms of breathlessness due to congestion. Loop diuretics, such as furosemide or bumetanide, are the main agents used. Thiazide or thiazide-like diuretics are less often used on their own. Electrolyte balance, particularly potassium, should be monitored on a regular basis for all patients with chronic heart failure on diuretic therapy due to the added risk of developing hyponatraemia (low blood sodium), which can cause serious neurological symptoms and even death. Renal function should also be monitored regularly to avoid worsening of renal impairment or causing acute renal failure.

Diuretics improve symptoms of breathlessness and exercise performance in patients with heart failure.

ACE inhibitors (ACEI)

ACE inhibitors improve survival in heart failure patients with left ventricular (LV) systolic dysfunction. The benefit is significant in patients with more severe LV systolic dysfunction symptoms. There is also good evidence to suggest that ACE inhibitors reduce exacerbations of heart failure and the risk of hospitalisation from it. They also reduce symptoms of fatigue and breathlessness in patients with heart failure and improve exercise capacity. ACE inhibitors should be initiated at a low dose and titrated upwards at short intervals (for example, every two weeks) until the optimal tolerated or target dose is achieved.

Angiotensin II receptor blockers (ARBs)

These agents are better tolerated than ACE inhibitors but the evidence for their use in heart failure is much weaker in comparison. ARBs should therefore be reserved for patients who are truly intolerant to ACE inhibitors.

The addition of an ARB can also be considered for symptomatic chronic heart failure patients who are already taking conventional therapy.

Beta blockers

Beta blockers are started on the lowest dose and gradually increased while monitoring heart rate, blood pressure and clinical status. Doses should be titrated upwards at no less than two-weekly intervals, aiming for the target dose or the highest tolerated dose. This slow increase, which the National Institute for Health and Care Excellence (NICE) calls “start slow, go slow”, is due to the fact that heart failure symptoms may be exaggerated during the initial period of therapy and patients need to be fully informed of the potential for this in order to minimise anxiety. These symptoms, which may include an increase in breathlessness and ankle oedema (swelling due to fluid retention), will subside with time.

Aldosterone receptor antagonists

Spironolactone and eplerenone act by blocking aldosterone, the steroid hormone that regulates salt and water in the body, thereby reducing water and salt retention. Spironolactone, added to conventional therapy, reduces both mortality and frequency of hospitalisation. The NICE guidance recommends that a licensed aldosterone antagonist may be added to the treatment regimen in patients with class III or IV heart failure, or those who have suffered a myocardial infarction (heart attack), if there are still symptoms despite optimal therapy with an ACEI plus beta blocker. Eplerenone is a newer aldosterone antagonist with a better side effect profile, as it is less likely to cause gynaecomastia (enlargement of male breast tissue). Other monitoring requirements are the same as spironolactone. It is licensed in post-myocardial infarction patients with heart failure and as an adjunct in chronic mild heart failure where the amount of blood being pumped out of the left ventricle with each contraction is 30 per cent or lower.

Ivabradine

Ivabradine selectively and specifically inhibits the cardiac pacemaker, leading to a reduction in the heart rate. According to the NICE 2012 Technology appraisal, ivabradine is an option for treating mild to severe stable chronic heart failure in combination with standard therapy such as beta blockers, an ACEI, and an aldosterone antagonist (unless contra-indicated or not tolerated).

Lifestyle advice

The following lifestyle advice should be given to all patients with chronic heart failure:

- Stop smoking – pharmacy teams can refer patients to smoking cessation clinics.
- Those with alcohol-related heart failure should abstain from drinking.
- Have the annual influenza vaccination.
- Have the once-only vaccination against pneumococcal disease.
- Participate in a supervised exercise-based rehabilitation programme.
- Restrict salt intake to no more than 6g per day (2.5g sodium).
- Regularly monitor weight.

Patients should also understand the common signs and symptoms of worsening heart failure, such as increased shortness of breath, with a decrease in exercise tolerance and weight gain of more than 2kg in two days.

“A typical community pharmacy will dispense medicines for around 80 patients with heart failure”

| Reflection exercise |

Contact your GP surgery, your community cardiac services or your local hospital and identify your local heart failure clinics. How do they operate and what policies are in place for heart failure drug therapy review and optimisation? What local information does your hospital and heart failure service provide to patients?

Go to www.tmmagazine.co.uk to answer the CPD questions. When you pass, you’ll be able to print out a certificate to showcase your learning. You can also add this to your online, personalised learning log.

Next month: We focus on Parkinson’s disease.