REVIEW

Management of end stage cardiac failure

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Optimum heart failure medication and an increasing array of interventions have had an enormous effect on morbidity and mortality over the past 10 years. However, patients with end stage disease can still be highly symptomatic. Moreover, such patients are disadvantaged compared with patients with malignant disease. They are less likely to have an understanding of their illness or have access to supportive care. They are also less likely to have the opportunity to plan for care with regard to death and dying. There is increasing demand that the multi-professional clinical team gain good communication and supportive care skills, and that appropriate access to specialist palliative care services is available.

Over the last 10 years, there has been a realisation that heart failure (itself the final common pathway of several aetiologies such as hypertension, ischaemic and valvular heart disease, and cardiomyopathy) is a terminal illness. Although advances in treatment have made a major impact on the clinical course and prognosis, patients may still experience debilitating problems in the end stage of their disease, and are less likely to have access to supportive and palliative care services than patients with malignant disease.[1–6] They are also less likely to understand what their illness is and to have had an opportunity to discuss matters relating to death and dying with their professional or informal carers; this means they are less likely to have the opportunity to plan for this event and are more likely to die in hospital.[6 7]

Several studies have demonstrated the symptom burden of these patients, and some have compared this to patients with cancer and shown that the symptom load is similar.[1 2 8] Basic supportive and palliative care skills are therefore required by the heart failure patient's usual health care professionals in both primary and secondary care, and access to specialist palliative care services for those with complex problems enabled. The need for a palliative care approach and access to specialist palliative care (SPC) services has been underlined in the National Service Framework for heart failure, National Institute for Health and Clinical Excellence guidance, and subsequent Department of Health guidance on service development for heart failure.[9–11]

EVIDENCE BASE

Although there is mounting qualitative evidence to demonstrate the burden of heart failure, there is very little literature to provide an evidence base for symptom control in heart failure. Although there is grade A evidence to support optimum cardiac medication, it is not within the scope of this article to discuss this although I will give a few key references for each.

For the symptom control issues, I include what research there is; there are few randomised controlled studies, and what little there are tend to be small, or pilot studies as shown in table 1. However, there is an increasing base of experience from those working with the palliation of heart failure patients, much of which is transferred from the field of oncology. There is much need for research in this area.

There is also little evidence to indicate which model of service is best suited to provide supportive and palliative care, but there are some services that have described their experience and I have therefore referred to these.

SYMPTOMS

The principles of symptom control are the same irrespective of diagnosis. A full assessment of the patient (including relevant investigations), intervention to reverse any reversible factors and palliation of irreversible situations is a system which is applicable to oncology and heart patients alike. Failure to apply these principles, however, results in conflicting management plans and inappropriate treatments that can aggravate the situation and confuse the patient and their carers. Continuity of care is also very important and can be a problem for many patients who may be seen by a variety of healthcare professionals even within the same setting.[1] Good communication with patient and carer, and good communication between secondary and primary care is an integral part of effecting symptom control.

Physical

Optimal medical management

It is important that the medical management of heart failure is optimised as this has a major effect not only on survival but also on symptom control. This should be reviewed regularly.

Angiotensin-converting enzyme inhibitors (ACE-I) or angiotensin II inhibitors (AII-I) are the mainstay of pharmacological treatment and should be continued if tolerated.[12–18] The main difficulties, particularly towards end stage disease, are hypotension and renal dysfunction. The latter

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Abbreviations: ACE-I, angiotensin-converting enzyme inhibitors; AII-I, angiotensin II inhibitors; COPD, chronic obstructive pulmonary disease; GSF, Gold Standards Framework; ICD, implantable cardioverter-defibrillator; SPC, specialist palliative care; SSRIs, selective serotonin reuptake inhibitors; TENS, transcutaneous electrical nerve stimulation

Table 1 Evidence for breathlessness in heart failure

Studies	RCT (Y/N)	No.	Intervention	Result	Comments
Oxygen					
Moore DP *et al* 1992[27]	N	12	Oxygen	Benefit	
Restrick LJ *et al* 1992[28]	Y(exploratory unpowered)	12	Oxygen vs air	No benefit	
Russell SD *et al* 1999[29]	Y (exploratory unpowered)	16	Oxygen 21%vs 60%	No benefit	
Opioids					
Johnson MJ *et al* 2000[35]	Y (pilot crossover)	10	Morphine vs placebo	Benefit	Repeat dose
Chua TP *et al* 1997[34]	Y (exploratory unpowered)	12	Dihydrocodeine vs placebo	Benefit	Single dose
Williams SG *et al* 2001[33]	Y (exploratory unpowered)	16	Diamorphine vs placebo	Benefit	Single dose
Farncombe M *et al* 1993[36]	N case report	2	Nebulised morphine	Benefit	Other comorbidities and multiple other treatments

N, no; RCT, randomised controlled trial; Y, yes.

may often be rectified by judicious titration of loop diuretic, or dose reduction of the ACE-I. However, towards end stage a balance between the need for symptom control, especially symptoms due to fluid overload, and renal function is often required, and a degree of renal dysfunction accepted.

Likewise, appropriate use of loop diuretics is standard. Education of the patient to enable them to use a weight management programme with altered diuretic dose if necessary can reduce the number of hospital admissions due to decompensation. Low dose (25 mg/day) spironolactone has been shown to increase survival and can improve symptoms of peripheral oedema.[19] Hyperkalaemia is the main reason for stopping it, but nausea can also be a problem in some. The newer drug eplerenone is thought to cause less hyperkalaemia, but it is not yet widely used.[20] It is currently only licensed for left ventricular dysfunction post-myocardial infarction, but in end stage disease, a clinical judgement could be made to assess whether it would be useful in other aetiologies. Patients may also require additional diuretics such as bendroflumethiazide or metolazone in order to control peripheral or pulmonary oedema. Metolazone is a very powerful diuretic which may not have its optimal response for a few days. It therefore requires close monitoring and clear prescribing responsibility, especially on discharge from hospital if it has been started as an inpatient. Often a dose as small as 2.5 mg twice a week is enough.

β-blockers are also part of optimal treatment, although hypotension may limit their use.[21–23] Reversible airways disease is a contraindication, but many patients with chronic obstructive pulmonary disease (COPD) can tolerate them.

Digoxin can also be useful; however, unless the patient is in atrial fibrillation, it can usually be stopped in end stage disease in order to minimise tablet burden.

Some patients are eligible for interventions such as biventricular pacing and resynchronisation (especially for patients with wide complexes on ECG) and/or implantable cardioverter-defibrillator (ICD) devices, and cardiology expertise should be sought.[24 25]

Many patients are not on optimal tolerated management, either because they have not been assessed in this regard, or because medication has been stopped for a transient problem, and not restarted. For example, an ACE-I may have been stopped because the patient had some renal dysfunction due to overdiuresis, but not re-started when the problem was resolved, and indeed may not have needed to have been stopped in the first place. Those who are on such medication may not be on the optimum dose.

Titration of optimal treatment is a skilled process and involvement of a heart failure nurse specialist and cardiology review is often very helpful.

Breathlessness

Breathlessness is common and its severity provides the basis for the New York Heart Association (NYHA) classification of heart failure. Assessment should look for the cause of breathlessness such as pulmonary oedema from decompensated heart failure with fluid overload, chest infection, pleural effusion (which itself could be due to fluid overload or infection, pulmonary embolism or underlying bronchogenic cancer), pulmonary embolism or neoplasm. Many patients with heart failure also have co-existent COPD or asthma as a contributory cause of their breathlessness.

However, many patients who do not have any other cause of breathlessness and who are at their dry weight will be breathless on exertion. It is thought that this is due to increased chemoceptor sensitivity and an increased muscle ergoreflex response. Moreover, the pattern of respiration and lung perfusion/ventilation is inefficient, resulting in increased physical and physiological dead space.[26]

Oxygen would seem an obvious choice to alleviate breathlessness, but as decompensated patients tend not to desaturate, it does not appear to be of benefit unless there are other factors causing hypoxia. A patient by patient assessment should be made rather than automatic use of expensive and potentially intrusive and psychological dependence inducing treatment.[27–30]

Non-pharmacological interventions such as pacing and prioritising, management of panic and breathing training are likely to be helpful and have been shown to be beneficial in lung cancer and COPD patients.[31] Likewise a hand-held fan can provide useful cool air to the face, alleviating the sensation of breathlessness to a certain degree.[32]

There is a small amount of evidence in support of opioids for the treatment of breathlessness.[33–36] A randomised placebo controlled crossover pilot study showed a statistically significant

Principles of symptom management: summary

- Perform a holistic assessment of cause of symptoms
- Optimise tolerated cardiac medication
- Reverse any reversible factors
- Palliate any remaining symptoms

Optimum cardiac management: summary

Review with regard to

- ACE-I or AII-I
- β-blocker
- Spironolactone
- Optimise other diuretics
- Resynchronisation or ICD

improvement in breathlessness scores with morphine.[35] It was generally well tolerated for the 4-day treatment period and some of the patients have stayed on it long term for some years. Oxycodone has theoretical and anecdotal advantages over morphine because it does not have pharmacologically active metabolites to accumulate in renal dysfunction, which is the case with morphine. Obviously careful monitoring is required if opioids are used, with dose reduction and dosage interval increase in renal dysfunction. Because of the likelihood of variable renal function in end stage disease, it would seem sensible to use immediately available preparations rather than sustained release ones. As a general rule, a dose range of 2.5–5 mg of morphine, or 1–2 mg of oxycodone up to four times a day is sufficient to help with breathlessness. If a patient is also in pain, then the dose may need to be titrated higher. Patients commenced on opioids should also have an anti-emetic prescribed as nausea may be a problem, at least for the first few days, and a laxative as the vast majority of patients will become constipated. Counselling of the patient is also important as many have fears relating to opioids, thinking that taking them equates with imminent death, or even an underlying undeclared diagnosis of cancer. Reassuring the patient that the aim is to help them increase their mobility and function may increase their compliance.

There is an account of the use of nebulised morphine in two patients,[36] but this route should not be used unless there were greater evidence of safety and efficacy.

Where panic is a major contributory factor, a benzodiazepine can be helpful if non-pharmacological measures have failed. Anecdotally, respiratory depression does not appear to be the major concern once thought. However, benzodiazepines are associated with a higher risk of falling, and can impair short term memory. An intermediate half-life preparation such as lorazepam (which also has the advantage of being able to be absorbed sublingually for quicker effect) is therefore likely to be preferable to longer acting ones such as diazepam. There is no published research to guide the clinician and decisions should be taken on an individual basis.

Pain

Heart failure is not commonly thought of as a painful condition, but yet many patients experience pain. This may be angina, claudication or pain due to gout, arthritis, muscular pain, or even co-existent diabetic neuropathy. Sometimes patients can complain of pain in the legs, often at night, not associated with claudication or night cramps that has the characteristics of neuropathic pain, and anecdotally often responds to low dose neuropathic adjuvant analgesics such as gabapentin.

Assessment with application of the World Health Organization analgesic ladder (table 2)[37] is appropriate even though it was developed for cancer pain. Optimal anti-anginal treatment is important, and in resistant angina, there is some evidence for the use of opioids, TENS (transcutaneous electrical nerve stimulation) or even spinal cord stimulation in selected patients if available.[38–43] Non-steroidal anti-inflammatory drugs should be avoided as there is an increased risk of decompensation with their use.[44] Instead, colchicine followed by allopurinol (as it may recur if the dose of diuretic is changed) should be used to treat gout; occasionally cautious use of low dose steroids may be needed, but there is a risk of fluid retention with this too. If neuropathic adjuvants are needed, then amitriptyline should not be used because of the increased risk of arrhythmias.

Fatigue

Fatigue is also a major problem in patients with heart failure. Again, an assessment to look for potentially reversible factors is essential. Hypokalaemia from loop diuretics, anaemia, and over diuresis are all common. Patients on β-blockers, particularly initially, may find fatigue a problem. A sleep history should be taken as many patients suffer insomnia. This could be due to paroxysmal nocturnal dyspnoea in the decompensated patient, or orthopnoea. A simple intervention such as raising the patient's feet in bed (this may need a hospital bed to be arranged at home) can sometimes result in better sleep as the patient no longer slips down the bed during the night. Periodic respiration is also a problem in some, and is thought to be due to the hypersensitive chemoceptors. Oxygen therapy and dihydrocodeine have both been shown to ameliorate this.[45] A small dose of opioid at bed time may therefore by helpful. If there is sleep apnoea, then nocturnal non-invasive ventilation may be helpful. Depression is discussed later, but may also be a reversible cause of fatigue.

Other symptoms

Nausea and vomiting may be caused by medication (spironolactone, digoxin toxicity, opioids), liver capsule distension, gut wall oedema, constipation or renal failure. Anxiety may also play a part. Again reversible factors should be addressed and an anti-emetic given while needed. Cyclizine should be avoided because of its strong anticholinergic effect.[46] Prokinetics such as metoclopramide or domperidone seem well tolerated, as are haloperidol and levomepromazine, especially if the dose is kept low (for example, 0.5–1.5 mg haloperidol daily or 6 mg levomepromazine once or twice daily). Attention to nutritional state is important as many patients do not eat well[47]; however, as the end stage of disease is reached, a cachexic metabolic state often supervenes, in which case, emphasis on eating little and often can relieve the burden of ''trying to get enough food down''. Anti-cytokine approaches such as thalidomide may help at this stage, but currently its use is experimental.

Skin care is important as cellulitis is a risk with swollen legs. Regular use of emollients such as aqueous cream is helpful. If itch is a problem, the addition of menthol to the aqueous cream can provide a useful cooling effect. If itch persists, then selective serotonin reuptake inhibitors (SSRIs), or 5-hydroxy tryptamine 3 inhibitors such as ondansetron may give some benefit; thalidomide may also help.[48–52] A sedative antihistamine

Management of breathlessness: summary

- Assess cause, looking for ''reversible'' factors—for example, optimise management of co-morbidity such as asthma
- Non-pharmacological methods of breathlessness management, including hand held fan
- Opioids
- Cautious use of benzodiazepines for panic
- Oxygen if appropriate (ie, hypoxia)

Table 2 The World Health Organization analgesic ladder

Step 1. Mild pain	Simple analgesia such as: paracetamol 1 g four times a day	± adjuvant analgesic
Step 2. Moderate pain	Simple analgesia + weak opioid such as: paracetamol 500 mg + codeine 30 mg, two tablets four times a day	± adjuvant analgesic
Step 3. Severe pain	Strong opioid such as: morphine starting dose 2.5–10 mg every 4 h depending upon renal function and body weight	± adjuvant analgesic

Causes of fatigue in heart failure: summary

Drug causes
- Overdiuresis
- Hypokalaemia from loop diuretics
- β-blockers
- Blood loss due to aspirin

Anaemia
- See aspirin
- Anaemia of chronic disease
- Co-morbidities—for example, pernicious anaemia, malignancy

Sleep problems
- Orthopnoea
- Paroxysmal nocturnal dyspnoea
- Periodic respiration ± sleep apnoea
- Anxiety/depression

Psychological
- Depression
- Anxiety

may help sleep, but antihistamines are often disappointing in this situation.

As patients are often on a degree of fluid restriction, constipation should not be managed with bulking agents such as ispaghula husk, unless there is a good reason such as irritable bowel or diverticular disease. Macroglycols seem well tolerated and not all commercially available preparations (for example, Idrolax) have high sodium content.

Table 3 lists those drugs to avoid, if possible, when attempting to control other symptoms in heart failure.

Psychological/spiritual/social/financial

As discussed above, there is an increasing wealth of published patient narrative from well constructed qualitative research demonstrating the impact that heart failure has on quality of life; the problems affecting every domain of life. Depression is common and has an independent effect on morbidity and mortality from heart failure.[53 54] Tricyclics should be avoided, but SSRIs appear to be safe although some have more drug interactions than others, which is important to take into consideration when so many patients are on warfarin.[55] Non-pharmacological approaches using cognitive behavioural therapy or exercise training can be beneficial.[56 57]

The meaning of life, fears and questions about death and dying, and the ever shrinking social parameters become big issues.[1] Eventually individuals may become house bound and feel a burden upon their carers. Struggling with polypharmacy, co-morbidity and a health and social care system that can appear bemusing and may offer less than perfect continuity, it can be hard to maintain hope and purpose.

A full holistic assessment is therefore mandatory, ensuring that the relevant members of the team, including physiotherapy, occupational therapy, social worker and spiritual care, are involved. The primary care team and heart failure nurse specialist, if there is one, are invaluable in ensuring these aspects do not get forgotten and management is maximised even in the midst of progressing disease.

Table 3 Drugs to avoid if possible in symptom control in heart failure

Drug	Problem
Non-steroidal anti-inflammatory drugs (NSAIDs)	Salt and water retention with risk of decompensation
Steroids	Same as for NSAIDs
Drugs with significant anticholinergic effect, eg, cyclizine and tricyclics antidepressants	Pro-arrhythmic: avoid unless patient is in the dying phase
Bulking agents such as ispaghula husk	Risk of exacerbating constipation in patients on fluid restriction

General note: be aware of potential of drug interactions with patients on warfarin.

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SPECIFIC END-OF-LIFE ISSUES

Prognosis

One of the barriers to accessing SPC services results from the difficulties with prognosis. Apart from the risk of sudden death due to arrhythmia or myocardial infarction, the trajectory of disease is one of slow decline interspersed with episodes of decompensation. Initially these episodes are typically precipitated by infection, or a further ischaemic event, but later on can happen without any obvious reason. It can be very difficult to predict which episode of decompensation will respond to treatment. Various features of disease, such as levels of B-type natriuretic protein or serum sodium, have been looked at as prognostic markers, but this work is beyond the scope of this article.

The problem is more significant if there is the persistent misconception that SPC services are only appropriate for patients at the very end of life, who are actively dying. Over the past 30 years, in the field of oncology, SPC services have been used earlier and earlier in a patient's illness if there are issues best dealt with by them. Whether the patient is imminently terminal (which can sometimes be just as difficult to determine in oncology) has become less of a barrier to referral. Therefore, in heart failure patients, if a problem approach is used alongside discussion with the patient regarding their wishes, then it can be possible to involve SPC services when there is a problem with which they can help (for example, symptom control, day hospice attendance, admission for intravenous diuretic management when appropriate). The

Box 1 Global Standards Framework (GSF) guidance for including heart failure patients[59 60]

Suggested criteria for inclusion on the Supportive Care Register for a patient with heart failure can be found in ''Coronary Heart Disease Collaborative Supportive and Palliative Care for Advanced Heart Failure'' 2005 www.modern.nhs.uk/chd.[60]
In the guidance document suggested criteria for inclusion of patients with heart failure on the GSF Supportive Care register include two or more of the following:

- CHF NYHA functional class III or IV
- Thought to be in the last year of life
- Repeated hospital admissions with symptoms of heart failure
- Patient has difficult physical/psychological symptoms despite optimal tolerated therapy

CHF, chronic heart failure; NYHA, New York Heart Association.

patient can then be discharged if they stabilise and no longer require SPC input. Using a holistic, multiprofessional approach, many of the supportive and palliative care issues will be managed by the patient's *usual* medical team who will then be aware of difficult problems that need referral on to the specialist team. In this way, patient problems will be assessed and addressed in a timely fashion, rather than referring to SPC services too late. This is a particular issue for patients awaiting transplant who have traditionally not been referred to SPC services because they are still aiming for active treatment; there is no reason why both approaches cannot be used in this highly symptomatic group and be discharged from SPC services if there is a successful transplant.

In order for this to happen, the usual medical team will require sufficient communication skills in order to discuss difficult issues with the patient and family; some may feel inadequate to this task and training may be required.

Some cardiac networks have drawn up referral and symptom control guidance to help this process.[58] The Gold Standards Framework (GSF) is a primary care initiative to help with advanced planning and care for palliative care patients.[59] The GSF and Coronary Heart Disease Collaborative guidance[60] for when to include heart failure patients on the palliative care list can be seen in box 1.

Care and planning at the end of life

Communication skills are the key factor. Discovering a patient's wishes about quality and quantity of life can be hard. However, if this is not done, the patient may well die in hospital ''by default'' when that would not have been their wish. Transferring systems of care pioneered in cancer management, such as the GSF, and the Liverpool Care Pathway for the Dying (which is a checklist for care aiming to bring hospice care to other settings such as hospital and home), can allow advanced planning and support to be provided, leading to a dignified and comfortable death in the place of patient choice.[61]

Do not resuscitate orders and ICDs

Other areas requiring skilful communication include do not resuscitate orders and arranging for ICDs to be switched to pacemaker mode.

The latter needs sensitive discussion in enough time to arrange the pacemaker technician (or sometimes the company representative) to re-programme the device. Facilities and systems vary for this in different localities and it is recommended that the clinical team is familiar with local procedures. Some areas do not have guidance about this and relevant clinicians should be encouraged to rectify this. Potential repeated shocks in clear consciousness in a dying patient are distressing for all. Strong magnets usually available from the pacemaker clinic held over the device should prevent it from activating; however, this only works while it is held next to the device and is therefore not a replacement plan for re-programming.

Ethically, this is considered to be withholding or withdrawing treatment and there is some useful discussion in the literature.[62–64] Even in the event of an asystolic death, the ICD should be switched to pacing mode before removal by the

Table 5 Barriers to accessing specialist palliative care (SPC) services

Barrier	Comment
From cardiology:	
• Perception that SPC is only for the dying	• Where there have been joint initiatives between the services, there has been mutual transfer in skills and understanding.[69–71]
• Concentration on the cardiac medication and interventions only	
• Lack of experience, understanding and skills in supportive care and team working	• A shared care approach seems to provide a solution to many of these fears regarding skills for management[72]
• Lack of communication skills to address end-of-life and treatment choice issues	• Mutual cooperation has the effect of up-skilling the generic services in palliative care such that many issues do not require input from SPC other than education and support of health professionals
• Concerns that SPC services will stop medication inappropriately and not have sufficient skills in cardiac management	
• Lack of understanding of what SPC services offer	
From SPC:	
• Concern that the ''flood gates'' will open and swamp already precarious oversubscribed services that are heavily dependent on charitable funding[67 68]	• Services that have published their experience have not experienced a major concern apart from patients attending day hospice that can do very well with social stimulation and regular review and therefore stabilise[69–71]
• Concern that beds will be ''blocked'' by patients with chronic illness that are not well enough to go home, but who are not actively dying	
• Concerns that they will not have the skills to manage these patients	• A shared care approach seems to have provided a solution to many of these fears regarding skills for management
From both:	
• Patients will not wish to access SPC services and would be upset by this approach	• Two reports of patient satisfaction would not confirm this.[73 74] In my experience, if patients have this option discussed in a sensitive manner are usually pleased to receive services that are of benefit to them. As in oncology, there are a few patients who deal with their disease in such a way that they cannot cope with hospice referral and it is to be expected that we would find similar patients in cardiology too

mortician as anecdotally there is a risk of a shock to staff during this procedure.

Specific symptom issues in the dying

The skills required to care for the dying learnt in oncology are transferable to heart failure patients. The only significant differences, apart from the issue of devices, is that despite the patient drinking less and less (thus in effect fluid restricting) pulmonary oedema can still be a distressing problem for some. Intravenous administration of diuretic can be intrusive and uncomfortable, particularly where venous access has become difficult, and intramuscular injections are unpleasant. Subcutaneous administration of furosemide appears to be possible and effective either by intermittent injection or continuous infusion with a syringe driver.[65 66] If the oral route is lost, transdermal nitrates may also be useful to help prevent pulmonary oedema. Again, the counsel of perfection is to avoid anticholinergics such as cyclizine, and there are appropriate anti-emetic alternatives. The use of anticholinergics to ease severe ''death rattle'' in patients who are actively dying is less avoidable, but less of a concern at this stage.

BARRIERS TO ACCESSING SPECIALIST PALLIATIVE CARE SERVICES

There are many barriers to patients accessing SPC services or even generic care from their primary teams; these are summarised in table 5.[67–74] There is progress in the UK but it is patchy.

CONCLUSIONS

Patients with heart failure are as symptomatic as many patients with cancer but still do not have equal access to supportive and palliative care, either from their own team or from SPC services.[75] There is a need for all practitioners involved in their care to develop skills that include a full holistic assessment of symptoms, teamwork and an ability to communicate effectively with patient, carer and other health care professionals. A useful resource has been developed by the Heart Improvement Programme.[76] Recognition of patients who are in the end stage of their illness is important to allow appropriate discussion, choice and planning for the patient and family. The difficulties in prognosis make this challenging, but not impossible, in a significant number of patients. The developing links between cardiology, palliative care and primary care is to be fostered, with mutual learning and understanding contributing to better care of the patients.

MULTIPLE CHOICE QUESTIONS (TRUE (T)/FALSE (F); ANSWERS AFTER THE REFERENCES

(1) Depressed patients with heart failure have an increased mortality.

(2) When prescribing opioids, ispaghula husk should be co-prescribed to prevent constipation.

(3) Oxygen is usually useful in the management of breathlessness in stable heart failure patients.

(4) Re-programming an ICD to pacemaker mode is an equivalent decision to a do not resuscitate order.

(5) Anticholinergic drugs are helpful in the management of nausea in heart failure patients.

(6) Patients with cancer have easier access to SPC services than heart failure patients.

(7) SPC services are only appropriate for patients who are in the last few weeks of life.

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ANSWERS

(1) T; (2) F; (3) F; (4) T; (5) F; (6) T; (7) F.