SUMMARY GUIDELINES FOR THE INVESTIGATION AND MANAGEMENT OF PATIENTS WITH MODERATE OR SEVERE LEFT VENTRICULAR SYSTOLIC DYSFUNCTION

If the patient has a hospital admission for worsening heart failure they should be offered follow-up and support from the Heart Failure Nursing Service. If you identify such a patient post discharge who has not been picked up by the service, please contact the service to arrange follow-up (see contact details on page 2).

ESSENTIAL INVESTIGATIONS if patient has history and signs and/or symptoms of LVSD

- FBC (anaemia may cause dypnoea)
- TFTs (exclude thyrotoxicosis)
- Echocardiogram (use open access echo service)
- BNP (if available)
- consider ferritin, urinary catecholamines, autoantibodies if appropriate
- Blood chemistry (renal function pre ACE)
- Resting 12 lead ECG
- CXR

Consider stopping all medicines which may precipitate or aggravate heart failure including over the counter e.g. NSAIDs, COX Iis, St John's Wort (reduces digoxin efficiency)

NON PHARMACOLOGICAL MEASURES

INCREASED SYMPTOMS

- Advise patients that early reporting of increased breathlessness/ankle oedema can reduce chance of hospitalization

WEIGHT CHANGE

- Record weight when no odema/JVP not raised – "DRY" weight. Ask patients with recent symptoms or signs of fluid retention to record weight daily. Measure at same time each day, preferably on rising and after emptying bladder. If ≥3 day sustained increase of at least 1 kg then see over re diuretic adjustment.

NUTRITION

- Too much salt increases water retention and therefore symptoms

Give advice

- Avoid salt rich foods e.g. cheese, bacon and ham, tinned meat, sausages, beefburgers, pies, crisps, salt peanuts and other salty snacks, smoked fish, 'fast foods', tinned and packet soup and stock cubes.
- Use low salt foods instead e.g. fresh fish, fruit, poultry and meat, fresh vegetables, pasta and rice (cooked without salt).
- Avoid soluble analgesics both prescribed and over the counter.

ALCOHOL

- Alcohol is contraindicated in alcohol induced cardiomyopathy. Otherwise can be taken in small quantities, 1 or 2 units per day.

SMOKING

- A patients willingness to stop smoking should be addressed and appropriate intervention offered

EXERCISE

- Encourage patients to keep as active as possible. Walking regularly and undertaking any sporting activity they find enjoyable.

OBESITY

- Encourage small stepped changes towards modest weight loss targets – smaller portions, reduce fatty or sugary foods, consider cakes, biscuits etc as occasional treats.

CACHEXIA

- Encourage small and frequent eating, give advice on calorie dense food. Consider referral to dietitian.

COMPLIANCE

- Discuss the drugs prescribed – their purpose, the result of not taking them, the best times to take them, possible side effects and what to do if they occur. Involve the partner/carer if appropriate. Refer to community pharmacist for assessment and potential suitability for compliance aids.

IMMUNISATION

- Offer all patients with heart failure once only pneumococcal immunisation and annual influenza immunisation

PHARMACOLOGICAL MEASURES and DEVICES

ACE inhibitors reduce hospitalisations, increase exercise capacity and slow progression of LVSD

- All patients with LVSD (unless contraindicated) should be treated with an ACE I
- Target doses of ACEI (as defined by outcome trials): Ramipril 10mg/day or highest tolerated dose if this is less. (Target doses of other ACE I as per BNF)
- U+Es must be checked 1 week post initiation and each up-titration
- If renal function deteriorating (>20% increase in creat or >220umol/l) consider stopping ACEI
- If ACE I not tolerated due to cough, substitute with and angiotensin receptor blocker (ARB)
- Target doses of ARBs: candesartan 32mg daily, valsartan 160mg bd

BETA-BLOCKERS confer benefits in both mortality and morbidity in all grades of heart failure (NYHA I-IV) secondary to LV systolic dysfunction.

- Commence therapy only if patient has no drug or dose change within 4 weeks and is free of signs of fluid retention.
- bisoprolol and carvedilol are licenced for this indication
- Uptitrate slowly every 1-2 weeks until recommended dose: 10mg bisoprolol and 25mgbd carvedilol (50mg bd for patients >85kg) (see main guidelines beta-blocker section for details)
- Only increase doses if pulse rate >55bpm and BP > 90mmhg systolic.
- Consider changing patients already established on another betablocker to corresponding dose of carvedilol or bisoprolol

TREATMENT OF FLUID RETENTION (peripheral or pulmonary oedema or raised JVP)

- Use lowest dose of frusemide necessary to relieve fluid retention and breathlessness
- Start with 40mg oral per day
- Daily timing need not be fixed. Change timing to suit social circumstance. Dosing after 4pm can result in noctria.
- If not effective in 3 days then double dose
- If still not effective then increase to 120mg and consider URGENT referral to cardiology
- Overtreatment can lead to dehydration causing dizziness, light headedness, fatigue
- Overtreatment can occur if the patient becomes dehydrated for another reason e.g. diarrhoea, vomiting, hot weather, poor fluid intake.
- In the elderly symptoms may be non specific – confusion, impaired mobility, falls, incontinance

STILL SYMPTOMATIC (despite optimal treatment with diuretic, ACE I/ARB and beta-blocker)

- Patient should be referred for specialist advice on further management options e.g. spironolactone, bendrofluazide, metolazone, digoxin or cardiac resynchronisation therapy

SPIRONOLACTONE OR EPLERENONE: in addition to ACE I and BB in NYHA 2-4 with moderate-severe LVSD Baseline renal function: creatinine <170umol/l and monitore U+Es at 1, 2, 4 weeks then 3-6 monthly. See main guidleines for details

IVABRADINE: for NYHA 2-4 patients in SINUS RHYTHM with heart rate >75bpm despite maximum tolerated dose of betablocker. Starting dose 5mg twice daily or 2.5mg twice daily in elderly. Reduce to 2.5bd if HR <50 and increase to 7.5 twice daily target dose if HR >60.

CONSIDER CARDIAC RESYNCHRONISATION THERAPY (CRT): NYHA 2-4, LBBB

CONSIDER IMPLANTABLE DEFIBRILLATOR: SEVERE LVSD, LBBB, NON-SUSTAINED VT ON HOLTER, SYNCOPE

PATIENTS WITH ANGINA and LVSD

- Consider nitrates, amlodipine / felodipine or nicorandil (avoid diltiazem/verapamil in LVSD)
- Referral to cardiology for consideration of revascularisation if appropriate

PATIENTS WITH ATRIAL FIBRILLATION and LVSD

- Warfarin unless contraindicated or novel oral anticoagulant
- If ventricular rate >80bpm at rest despite beta-blocker then add digoxin 125-250ug (reduce dose in renal impairment, low BMI, the elderly).
- Avoid diltiazem or verapamil in patients with LVSD as may precipitate heart failure

Contact details for Grampian Wide HF Nursing Service:
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