Information for Clinicians

Clinical Biochemistry Department

Primary care heart failure diagnostic pathway in adults

Presentation

In primary care patients presenting with typical symptoms of heart failure (shortness of breath on exertion or at rest, orthopnoea, nocturnal cough or paroxysmal nocturnal dyspnoea) should initially be assessed using serum NT-proBNP.
Cases that are exceptions to this should be referred to the heart failure clinic directly and include those with:

- a previously confirmed history of heart failure with reduced ejection fraction
- a history of MI or ischaemic heart disease (previous stents or CABG)

Urgent admission should be considered for those with severe symptoms. If uncertain about the need for admission, specialist advice is advised via Consultant connect.
Pregnant women or women who gave birth within 6 months should immediately be discussed with cardiology.

Risk Factors for heart failure

- Previous MI or coronary heart disease, Hypertension, Atrial fibrillation or Diabetes Mellitus
- Drugs including alcohol
- Family history of heart failure or sudden cardiac death under the age of 40

Clinical Findings

- Tachypnoea
- Tachycardia (>100bpm) or arrhythmia
- Laterally displaced apex
- Raised JVP
- Peripheral oedema, basal crepitations or pleural effusions
- Enlarged (engorged) liver

Investigations

NT pro-BNP should be sent in a serum (gold topped) tube to the clinical biochemistry laboratory on the day of collection. The turnaround time is 2 days.

Suspected heart Failure

- History
- Examination
- ECG (essential to exclude tachyarrhythmia)

Previously confirmed heart failure with reduced ejection fraction

Previous MI or IHD

No previous IHD

Measure NT pro-BNP

Refer to Heart Failure Clinic

NT-proBNP >2000ng/L

Refer to heart failure clinic urgently

NT-proBNP 400-2000ng/L

Refer to community Echo & initiate treatment if high clinical suspicion

NT-proBNP <400ng/L

Heart failure is unlikely. Review other causes, see below.

If concern regarding heart failure discuss with cardiology via Consultant connect

Management of suspected systolic heart failure in the community:

DON'T DELAY, TREAT TODAY

- Consider ALL patients of suspected systolic Heart Failure for initiation of therapy even before results of Echo or scheduled Heart Failure Clinic Appointment
- If fluid overloaded – Start diuretics (frusemide or bumetanide)
- Start treatment with ACE inhibitors and beta-blockers if no apparent contraindications

Consider other tests if no cause found for SOB:

- CxR
- Urine dipstick for protein
- Spirometry
- HbA1c, TFT

Factors which may give misleading NT-proBNP results:

Falsely increased:

Age >70, Left Ventricular hypertrophy, PE, Ischaemic heart disease, Tachycardia, Right ventricular overload, Hypoxia, eGFR<60, Sepsis, COPD, Diabetes, Cirrhosis.

Falsely reduced:

Obesity, African or African-Caribbean, Diuretics, ACEi, ARBs, mineralocorticoid antagonists

Management in the community of chronic heart failure

- Consider initiating treatment in ALL patients of suspected systolic Heart Failure, even before results of Echo or scheduled Heart Failure Clinic appointment.
  For detailed guidance see: https://cks.nice.org.uk/heart-failure-chronic

- If fluid overloaded – Start diuretics (frusemide or bumetanide)
- Start treatment with ACE inhibitors and beta-blockers if no contraindications but only start one drug at a time. Use clinical judgement when deciding which to start first.
- Measure U&E 2 weeks after starting ACE inhibitor.
- Do not start ACE inhibitor if there is clinical suspicion of significant valve disease until seen in heart failure clinic
- Ensure that aggravating factors have been sought where appropriate (CxR, spirometry, U&E, TFT's, FBC, HbA1c) and comorbidities optimised (asthma, COPD, diabetes and atrial fibrillation)

Related Documents

Clinical Biochemistry test information – RUH Pathology website

Reference Sources

NICE Chronic heart failure in adults: diagnosis and management NG106
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Further sources of Information

For clinical advice regarding the use of NT-proBNP please contact the duty biochemist on 01225 824050 Monday –Friday 9am-5pm.