NT PRO- BNP test in diagnosis of heart failure: First Test- Right Test - Practising Realistic Medicine.

EF-42
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Aim
To improve the Heart Failure diagnostic pathway by introducing a one stop clinic assessment utilising Pro BNP blood test and Electrocardiogram(ECG) as a primary confirmation /Highly unlikely of Heart Failure. Pro BNP in conjunction with a standard 12 lead ECG exhibits high specificity and sensitivity. Only those patients with an abnormal (within specified criteria) ECG and positive BNP >300pg/mL results would proceed to an Echocardiogram (Echo) and possible medical consultation.

Methodology
Approximately 20% of all Cardiology referrals are for a diagnosis of possible heart failure. Previously all such referrals received an echocardiogram as the gold standard diagnostic evidence. However, a substantial number were negative for a heart failure diagnosis. Demands for diagnostic echo frequently exceed capacity leading to long waiting times, delay in diagnosis and treatment for those patients with heart failure.

In consultation with primary care, a pre-referral flow chart was introduced, a one stop hospital appointment for patients meeting the pre referral criteria to confirm a heart failure diagnosis or indicate that heart failure was highly unlikely to be the cause of referral symptoms was set up with the Cardiac physiologists providing the initial screening tests.

Brain Natriuretic Peptide(BNP) or N Terminal Pro BNP(NT Pro BNP) blood test in conjunction with a resting ECG provide a reliable primary confirmation or highly unlikely of a heart failure diagnosis. A number of factors are considered which may produce non H/F causes of high or low BNP results during evaluation of the BNP result.

- Patient has resting ECG and Pro BNP blood test assessed by an Associate Cardiac practitioner- If negative the patient is referred back to the GP by the associate practitioner with a feedback response to the GP for further evaluation.
- Positive echo for heart failure, seen by consultant for assessment and treatment in ring fenced clinic slots.
- Negative echo for heart failure referred back to GP for further evaluation.
- In a small number of cases patients may present with rare clinical presentations of heart failure and do not have a positive Pro BNP. On exclusion of other causes for symptoms, patients can be fast tracked for specialist tests via the cardiologist.

Outcomes
- Total patients assessed at UHA since December 2015 to February 2018 is 419
- 303 Echo slots have been redirected to inpatient referrals.
- Waiting times have reduced from 11-17 weeks to 7 weeks
- Pathway extended to University Hospital Crosshouse in January 2018

Future
- GP e-referral heart failure pathway
- GP e-referral New Diagnosis of Atrial Fibrillation pathway
- Community based hub under consideration
- In patient Pro BNP testing with strong gate keeping under consideration
- Continuing audit to maintain and improve pathway.
- Cut off BNP level raised to 400pg/mL as audit demonstrates false positives with normal echo in the 300-400pg/mL results.

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