

POCUS in the Community Setting: a valuable tool in the assessment of dyspnoea

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Dear Editor,

The Integrated Programme in Chronic Disease (IPCD) challenges clinicians to find new ways of delivering care, with a focus on person-centred care delivered by specialists close to the patient's home. Delivering on this vision however, requires specialists to confidently and reliably detect and manage chronic diseases and their complications in community settings, without routine resource to hospital-based services. Point-of-care ultrasound (POCUS) offers accessible evaluation of left ventricular (LV) function and pulmonary congestion^{1 2}. In this letter we report our experience with POCUS in the assessment of patients with dyspnoea in a pilot community clinic.

Eligible patients meeting criteria for community assessment under the IPCD programme were identified from general out-patient referrals to the cardiology OPD at Midlands Regional Hospital Portlaoise. All patients attending the clinic between 24/04/24 and 21/08/24 were included. POCUS evaluation was performed by a consultant cardiologist and included LV assessment and a focused lung ultrasound, performed according to a published protocol.²

37 people, of whom 19 were female were included. Median age was 81. 12 (32%) had a history of CHF. 15 (41%) had normal Nt-proBNP, 21 (57%) had elevated Nt-proBNP, of whom 12 (57%) had a Nt-proBNP >2000. 6 (16%) people had evidence of congestion on POCUS. 5 were managed wholly in the ambulatory setting, while 1 was subsequently admitted at scheduled review for inpatient diuretic therapy. The clinical utility of Nt-proBNP in the detection of congestion was limited. Of the 6 patients with congestion, Nt-proBNP ranged between 1400 and 3551. 2 of these 6 patients had Nt-proBNP greater than 2000. Of the 12 people with Nt-proBNP >2000 congestion was confirmed in 2 (17%). 20 people (54%) had a medication change at the clinic. 10 had changes to diuretic therapy with 6 having initiation/escalation and 4 de-escalation, of the remaining patients changes to anti-hypertensive therapy (8) was the commonest intervention. Further cardiac testing was requested for 5 patients. 31 (84%) people were discharged to GP. All patients for whom congestion was excluded were

discharged after a single visit to GP follow up. Over a median follow up of 119 days, no patient assessed as not congested had an unscheduled visit or admission.

In our study we were able to detect and rule-out congestion using POCUS in an ambulatory setting. The accurate assessment of congestion is a central challenge for clinicians as they assess patients with dyspnoea of suspected cardiac origin.² Bio-markers, specifically natriuretic peptides, have excellent NPV in excluding congestion as cause of dyspnoea, but as we have seen in our study the false positive rate is high.³

We have previously shown in an inpatient heart failure care setting that POCUS congestion assessment provides information additional to clinical exam and biomarkers.⁴ In this study, a POCUS centred evaluation enabled accurate congestion assessment in ambulatory settings. Congestion detection guided timely diuretic initiation, while its exclusion safely permitted discharge or treatment de-escalation. Additionally, for patients for whom congestion was excluded, single-visit discharge to primary care proved feasible and safe.

Declarations of Conflicts of Interest:

None declared.

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