Reviewer's report

Title: Improved Efficiency and Diagnostic Utility of Inpatient Transthoracic Echocardiography following Implementation of a Sonographer-Initiated Perflutren-based Contrast Administration Protocol

Version: 0 Date: 17 May 2020

Reviewer: David Platts

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In this original research by Prentice et al, a sonographer led/administered contrast TTE protocol was compared to usual institutional practice (RN administration). 320 patients/scan were included in the analysis. The time taken to obtain a contrast enhanced TTE was not significant between the two groups (p =0.67). However, the time taken to complete each TTE (time from first echocardiogram image to the last contrast enhanced echocardiogram image) was significant between the two groups, with about 12 minutes saved in the newer protocol.

The authors should be commended for seeking ways to optimise the use/uptake of contrast enhanced TTE, as this is clearly an area that needs attention & improvement. This is an interesting and novel topic plus is a useful clinical study. However, the manuscript is written very poorly, lacks organisation and missing required detail.

Some comments

Insufficient detail in methods on how timing was performed.

Contrast can be administered as either a bolus or infusion method. No details given other than "administered according to manufacturer recommendations". This is insufficient and further details need to be provided as the method of administration not only has significantly different set up times (hence also impacting on your metric you are interested in) but also on how readily or easily a contrast image may be obtained.

The exclusion criteria need further explanation-strain and valves are not contrast targets so not sure how they would be excluded from a head to head contrast methods study?

Lack of IV cannulation should also be mentioned as a possible barrier to CE-TTE, especially if an out patient.

There should be a comment about incidence of any contrast adverse reactions.

There is no comment about wall motion interpretation in the methods-this is first mentioned in results then conclusion and some graphics. The authors need to outline how and what they did regarding regional wall motion analysis (RWMA).
Was the RWMA finalised by a reporting echocardiologist?

"Health care market" - delivery of healthcare to patients is not a market. This should be rephrased.

Sonographer experience comments need to be in methods not results.

Demographic details required-gender, age, scan location (department, ward, ED, CCU, ICU)

Insufficient references (16)

Non-diagnostic TTE are typically quoted as up to 25% not 5-10%. Plenty of refs for this.

Numerous errors of grammar/typology-please get proofread.

"one business day" - business is a redundant & unnecessary word.

"Thru" - should be spelt fully.

"We aimed" is very poor grammar

Definity spelt incorrectly

"independent" twice in a sentence at the end of results-similar for "initiation" in paragraph 1 in the discussion

"enhancer" in figure 1 & 2 is a confusing term and should be replaced.

Level of interest
Please indicate how interesting you found the manuscript:

An article whose findings are important to those with closely related research interests

Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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I have acted a clinical liaison for Lantheus Medical Imaging (ANZ)-where I may be called to assist clinicians & echo labs in all things contrast if required. I was CSANZ representative on Federal Government MSAC Application by Lantheus for Medicare funding, Definity (unsuccessful in Australia 2008).

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