Reviewer's report

Title: Macrophage Inhibitor Cytokine 1 (MIC-1/GDF15) as a Novel Diagnostic Serum Biomarker in Pancreatic Ductal Adenocarcinoma

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Reviewer: Juan Carklos C Roa

Reviewer's report:

Major compulsory Revisions

This study addresses the need to identify new diagnostic strategies for pancreatic cancer because it is the most powerful to prevent more deaths from this disease strategy. The article is well written but needs general writing and grammar corrections.

The authors proposed that the measurement of MIC-1 is more sensitive than the currently used parameters, however, this slight increase in performance may not be sufficient to apply this methodology for screening, besides having limitations in specificity as current methods and the relationship between MIC-1 and inflammation that leads to inespecificity. Although MIC-1 outperformed CA19.9 sensitivity at early-stage PDAC, MIC-1 does not distinguish between PDAC and chronic pancreatitis so the assumption that this biomarker could lead to diagnosis of patients with early stages at population-level should be addressed more carefully by the authors. Nevertheless, MIC-1 it is an interesting biomarker and new strategies could be explored to improve its performance, maybe in multiplex with CA19.9 or other biomarkers.

Questions:

1) What may be the underlying biology that could explain the better performance of MIC-1 in early-stage PDAC in comparison with CA19.9?

2) If MIC-1 is influenced by inflammatory processes, as the authors mentioned, and is not able to distinguish between PDAC and chronic pancreatitis and moreover, high levels of expression are also observed in other neoplasias, how could be applied to screening of PDAC considering such inespecificity?

Minor essential revisions

Correct drafting errors at lines: 210: 723.9 pg/mL it should be 723.9 pg/mL, by separate ; 211: 1192.6 pg/mL; 212: 1449.1 pg/mL and so on.

Line 137: It should be MIC-1, not MIC

Line 200: What does it mean “unregulated” in the context of this paper? Down-regulated?

Line 273: "Pancreatic Carcinomas" should not be capitalized. At line 275 it used correctly. Fix this and other terms along the paper.
Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests: 
I declare that I have no competing interests