

Open peer review report 2

Reviewer 2: Shan Ping Yu, Emory University School of Medicine, Atlanta, GA 30324, USA.

Comments to the authors:

The work is highly clinically relevant and needed.

The results provides potential prediction of outcomes of TBI patients

The study is largely carefully done.

A number of necessary information are missing.

Experimental design and data analysis can be improved.

This is a clinical investigation on the relationship between three growth factors, i.e. Ang-1, G-CSF and VEGF, and outcomes of TBI patients. The research design was reasonable, data collection and analysis were appropriate, and the manuscript is generally well written. Prognosis of TBI patient is an important but sometimes uncertain issue in clinical practice. This work provides useful, although preliminary, information to predict "good" and "bad" outcomes for sub-chronic (3 month) prediction. Some issues require the authors attention.

2.1. Study population: Please specify what "international guidelines for TBI treatment" were applied to these TBI patients. These should include the routing procedures in the ER and any physical/chemical therapies that were applied during the 7 days period as well as the 3 moth following up period. Please also provide information about the severity and types of these TBI patients.

2.2. Inclusion and exclusion criteria: Please state whether diabetes or blood glucose levels was assessed and used as an exclusion criterion in patient selection. This could significantly affect the outcomes of patients and should be discussed in the paper.

2.4. Sample collection and measurement: The first sentence here is unclear. If the first blood sample was collected upon admission, then there should be 4 collections. To avoid the confusion, the phrase "upon admission" should be removed.

In Results, the number of patients with "good" and "bad" outcomes should be specified. The relationship to age and sex may be also considered.

4. Discussion: Second paragraph. Please describe the time course of primary and secondary brain injuries and how these might be correlated with the growth factor changes.

Please discuss published work for the prediction of TBI outcomes and other circulation factors that may plays a role in recovery after TBI.