LETTER TO THE EDITOR

Pretreatment thrombocytosis predicts survival in colorectal cancer

Dear editor,

It has been widely reported that platelets involve in occurrence and progression of multiple types of cancer [1]. As one of the most common indicator in clinical practice, platelets have gradually become a key tool for cancer management. Recently, investigations have been focusing on the role of pretreatment evaluated platelets, known as thrombocytosis, in predicting prognosis of colorectal cancer (CRC) which is one of the leading causes of cancer-related death worldwide; their results, however, still remains inconsistent. We are writing this letter to report our results of a meta-analysis to further estimate the association between thrombocytosis and CRC prognosis.

Electronic databases of Pubmed and Embase were systematically searched until December 2015 using keywords of “platelet” and “colorectal cancer” together with other synonyms. All the records were screened by two investigators independently (H.Y and X.T). Studies reporting association between pretreatment thrombocytosis (defined as > 400 million per mL) and survival of CRC patients were included for quantitative analysis. The pooled effect size of hazard ratio (HR) was calculated by inverse variance weighted random-effects model, and the funnel plot and Egger’s test were adopted to assess potential publication bias. All statistical analyses were performed using Stata Software (version 11.0; StataCorp, College Station, Tex).

A total of nine observational studies [2–9] were finally included for the meta-analysis. Overall we observed significant association between thrombocytosis and poor overall survival (OS) of CRC patients (HR = 1.62, 95% CI = 1.15–2.28). Notably, as shown in Fig. 1, our subgroup analysis found pretreatment thrombocytosis could predict poorer overall survival for localized CRC (HR = 1.60, 95% CI = 1.29–1.98). However, this survival difference was no longer detected in patients with metastatic CRC (mCRC). The funnel plot showed good symmetry and the result of Egger’s test verified absence of publication bias (P = 0.914).

Among all studies included, one study reported thrombocytosis as a predictor for poorer disease free survival (DFS) of localized CRC patients [6]; another study, however, found that thrombocytosis was not significantly associated with disease progression free survival (PFS) of mCRC patients [2], which was in line with our results for the OS of CRC patients with different stages.

Our meta-analysis found that pretreatment thrombocytosis served as a prognostic predictor for patients with localized CRC but not mCRC. Platelet per se participate in progression of CRC, and as reported by previous studies, thrombocytosis was significantly more common in patients with mCRC [7]. In addition, mCRC patients had poorer prognosis, which could potentially weaken the prediction efficiency of thrombocytosis for the prognosis of this group of patients. It is worth mentioning that platelets vary in a wide range; therefore whether thrombocytosis (400 million per mL) is the optimal cut-off value still remains to be explored in the future, especially in mCRC patients who possibly require a higher cut-off value. Future studies are imperative to identify better approaches to apply dynamic variation of platelets into CRC patients care.

Disclosure of interest

The author declares that he has no competing interest.

http://dx.doi.org/10.1016/j.clinre.2016.04.002
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References


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