Letter to the Editor

Platelets-to-lymphocyte ratio and esophageal cancer

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Dear Editor,

We read with great interest the recent publication by Deng *et al.* (1) published in the March 2018 issue of *Journal of Thoracic Disease*. The authors have performed a meta-analysis in order to examine the role of platelet to lymphocyte ratio (PLR) in the prognosis of esophageal cancer and also to evaluate the relationship with tumor pathological characteristics. Thirteen articles with 4,621 patients from 2013 to 2017 were included in the meta-analysis. The pooled hazard ratios revealed that a high PLR was associated with poor survival of esophageal cancer. This is a very interesting meta-analysis in our understanding regarding the establishment of an important biomarker with significant prognostic ability in patients with esophageal cancer. Nevertheless, before the results of this meta-analysis achieve wider uptake, a few points should be taken into consideration. It is well known that in a meta-analysis the interpretation of the results of included studies are analysed by advanced mathematical models in order to calculate a common pooled effect precisely. As a result, the conclusions of a meta-analysis are directly proportional with the quality of the included studies (2). The aforementioned meta-analysis included studies with different design, making the conclusions controversial.

To begin with, there is a significant heterogeneity in the studies that the authors decided to include in their meta-analysis. Mainly, regarding the treatment methods (surgery, chemotherapy or chemo-radiotherapy), definition of outcomes after treatment (complete response or partial remission), timing of intervention, neoadjuvant or plus adjuvant treatment, stage of disease and demographic differences. Moreover, we noticed significant heterogeneity regarding the analysis of the relationship between lymph node metastasis (yes *vs.* no) and PLR (I^2=17.9), the association between TNM stage (stage III/IV *vs.* I/II) and PLR (I^2=29.6), and the correlation between tumor length (>3 *vs.* 3 cm) and PLR (I^2=12.3). The above important heterogeneity reduces the statistical power due to the fact that the included studies have widely varying outcomes (3).

Furthermore, according to our recent search of the literature, we confronted with 7 additional studies which should have been included in this meta-analysis due to the fact that they meet the inclusion and exclusion criteria (4-10). *Table 1* demonstrates the characteristics of the studies that Deng *et al.* (1) have not included in their meta-analysis. More specifically, the aforementioned studies include 1,830 patients, published from 2011 to 2016 and were retrospectively designed. Five studies were from China and two from the UK. The cut-off points for the PLR ranged from 103 to 300 while six studies included patients with esophageal squamous cell carcinoma (SCC) and four with adenocarcinoma (ADC).

We suggest that Deng *et al.* (1) should repeat their meta-analysis including the additional seven studies that we suggest in order to analyse a larger group with additional 1,830 patients. Last but not least, the results of this study could be significantly more reliable if Deng *et al.* (1) include additional data regarding the publication bias.

Table 1 Main characteristics of the additional studies

Study	Year	Country	Age (mean or median)	No. (male/female)	Treatment	Histology	Intent	Stage	Cut-off value	HR	Study type
Dutta *et al.* (4)	2012	UK	75	112 (85/27)	S^1	SCC, ADC	Cur	I–IV	150,300	U	Uni/Re
Noble *et al.* (5)	2013	UK	67	246 (195/51)	S^1	SCC, ADC	Cur	I–IV	150	U	Uni/Re
Yuan *et al.* (6)	2014	China	63.1±9.7	327 (282/45)	S^1	ADC	Cur	I–IV	150,300	U	Uni/Re
Liu *et al.* (7)	2015	China	59.2±7.9	326 (283/43)	S	SCC	Cur	I–IV	166.5	U/M	Uni/Re
Chen *et al.* (8)	2016	China	59.1±7.9	323 (281/42)	S	SCC	Cur	I–III	150	U/M	Uni/Re
Wan *et al.* (9)	2016	China	63.0	179 (150/29)	CRT	SCC, ADC	Cur	I–III	180	U	Uni/Re
Xie *et al.* (10)	2016	China	58.1	317 (244/73)	S^2	SCC	Cur	I–III	103	U/M	Uni/Re

S, surgery; S^1, surgery ± neo chemo-radiotherapy; CRT, chemo-radiotherapy; S^2, surgery ± adjuvant chemo-radiotherapy; SCC, squamous cell carcinoma; ADC, adenocarcinoma; Cur, curative intent; HR, hazard ratio; Uni, unicentric; Re, retrospective; U, univariate analysis; M, multivariate analysis.

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None.

Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

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