



## Is Granulocyte colony-stimulating factor associated with development of aortitis?



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### ABSTRACT

The aim of this study was to mention some methodological issues in a study which investigate the effect of Granulocyte colony-stimulating factor on developing of aortitis.

Dear Editor,

We read with great interest the recent article by Oshima Y, et al. [1] published in the Journal of Cytokine entitled “*Granulocyte colony-stimulating factor associated aortitis in the Japanese Adverse Drug Event Report database*”. Their aim was to investigate the association between Granulocyte colony-stimulating factor (G-CSF) treatment and risk for aortitis in malignancies patients.

In this study, due to the fact that aortitis is a rare event after G-CSF treatment to increase sample size and find adequate aortitis cases, various malignancies were used which finally among 102,014 participants only 25 developed aortitis cases were obtained.

The problem of this type of sampling is that the power of this treatment in developing aortitis among various malignancies could be different.

Therefore, it is recommended to apply an advanced method such as Hierarchical Regression Models to study the effectiveness of G-CSF treatment on varieties of cancers especially in case of sparse data [2,3]. The authors also reported that G-CSF treatment increased the risk of aortitis among patients with malignant neoplasms (adjusted OR: 45.87 [95% CI:19.16–109.8]).

It is worth mentioning that, big odds ratio does not always represent a powerful risk factor for outcome. It could be due to the bias estimation of OR in the presence of sparsity of data. In this case, estimated standard error would be imprecise and very large leading extraordinary wide confidence interval. Table 2 in the study represents this phenomenon. To overcome this issue Firth penalization and data augmentation method of bias adjusting is recommended [4–6].

### Declaration of Competing Interest

None.

### References

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