

CRP Predicts Safe Patient Discharge After Colorectal Surgery

To the Editor:

We read the article by Giaccaglia et al¹ with great interest. In this study, the authors assess the potential benefit of procalcitonin (PCT) as a marker of anastomotic leakage after colorectal surgery. They conclude that PCT is a helpful biomarker for early diagnosis of anastomotic leakage after colorectal surgery and that results of further studies will tell if PCT and/or C-reactive protein (CRP) values might be added to discharge criteria after fast-track surgery.

We have several concerns about the methods. The authors designed a prospective observational study in 3 high-volume centers, in which 504 patients were included. However, the sample size calculation is not described. More generally, the Strengthening of Reporting of Observational studies in Epidemiology (STROBE) checklist should have been used to report this study.²

We also think that the results shown by the authors do not fully support their conclusion. Indeed, they found that the negative predictive values (NPVs) for anastomotic leakage with PCT were 96.9% (cut-off <2.7 ng/mL) and 98.3% (cut-off <2.3 ng/mL) in third and fifth postoperative days (PODs), respectively. With CRP, NPVs were 96.4% (cut-off <16.9 mg/mL) and 98.4%

(cut-off <12.5 mg/mL) in third and fifth PODs, respectively. Based on these proposed cut-offs, positive predictive values (PPVs) were 34% and 32% for PCT, and 19.5% and 22.1% for CRP. So, when serum levels of PCT and/or CRP are under the cut-off proposed (ie, NPV), the occurrence of anastomotic leakage is not likely and patients can thus be safely discharged. The addition of PCT to CRP seems not cost-effective as the cost of PCT is higher and as the gain observed for NPV is only 0.5% in third POD. When serum levels of PCT and/or CRP are over the proposed cut-off (ie, PPV), the probability of occurrence of anastomotic leakage is low for both markers (at most 34%). So PCT and CRP are not helpful for the early diagnosis of anastomotic leakage. For better interpretation of the results, we also would like to know what are the values of positive and negative likelihood ratios.

As stated by the authors, reliable markers for safe patient discharge are mandatory in the era of short-stay surgery. In this context, a reliable marker is defined by a high NPV, and CRP values seem to be enough. Unfortunately, the early diagnosis of anastomotic leakage remains difficult and cannot be predicted by a single biological marker.³ The remaining question is so, how to manage patients with isolated high CRP level. Within the framework of short-stay surgery, continuous surveillance after discharge by use of messaging modalities and tele-monitoring might be helpful in these patients to avoid the failure to rescue.⁴

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