

# CD83 antigen expression and its role in the progression of systemic malignancies

Expressão do antígeno CD83 e o seu papel na progressão de neoplasias sistêmicas

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I read with great interest the recent article by Borges et al.<sup>1</sup> CD83 may play a major role in the progression of systemic tumors other than fibroadenomas. Shorter survival rates are seen among patients with gastric carcinomas that demonstrate a lesser number of CD83-positive dendritic cells within the tumor.<sup>2</sup> In fact, the prognosis and clinical outcome in cases of gastric carcinoma is inversely related to the density of CD83-positive dendritic cells.<sup>3</sup> Similarly, in cases of gallbladder carcinoma, the tumor prognosis is influenced by infiltration of CD83-positive dendritic cells. For instance, in a recent study, Furihata et al. determined the CD83 index in gallbladder carcinomas by using the formula CD83 (+) DCs/ (CD83 (+) DCs plus CD1a (+) DCs, where DC stands for dendritic cell.<sup>4</sup> They showed that individuals with a higher CD83 index (greater than 0.316) had a better overall prognosis and clinical outcome.

In females with breast carcinomas, an inverse relationship exists between lymph node metastasis and CD83-positive dendritic cells. In fact, those who demonstrate higher numbers of CD83-positive dendritic cells and also exhibit lymph node metastasis have better survival rates than shown by those with smaller numbers of CD83-positive cells.<sup>5</sup> Longer “relapse-free survival” is also seen among individuals with higher CD83 dendritic cell levels. Similarly, in cases of cervical carcinoma, higher incidence of CD83 polymorphisms has been noted. Females with SNP rs9370729 on CD83 are more likely to develop cervical adenocarcinomas. A similar relationship is seen between cervical adenocarcinomas and SNP rs75074 on CD83. On the other hand, females with the CC genotype of SNP rs750749 on CD83 demonstrate almost half the risk of developing cervical malignancies, in contrast with those who exhibit the TT genotype.<sup>6</sup>

Higher levels of “soluble CD83” are seen in certain cases of chronic lymphocytic leukemia. Disease progression in cases of chronic lymphocytic leukemia may be strongly influenced and regulated by “soluble CD83”.<sup>7</sup> Recently, CD83 monoclonal antibodies were developed from 9D8 hybridoma cell lines, and this may prove to be of great benefit in oncology.<sup>8</sup>

The above examples clearly illustrate the significance of assessing CD83 status in the above tumors and the need for further human studies in this regard.

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## RESPONSE TO LETTER TO THE EDITOR

### Let's be attentive to the CD83 antigen expression in dendritic cell!

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We read the letter to the editor “CD83 antigen expression and its role in the progression of systemic malignancies”, that was written by Dr. Shailendra Kapoor, with great attention and interest. It shows that CD83 antigen expression in dendritic cells should represent a clinical marker for progression and prognosis in some malignant neoplasms like gastric carcinomas and gallbladder carcinomas. The letter also mentions that positive CD83 antigen expression in dendritic cells is inversely related to lymph node metastasis in women with breast carcinomas.

We are grateful to Dr. Kapoor for referring to our article in his letter. In fact, this was the first study on this issue in the Department of Gynecology, Unifesp, and has led us to great interest in CD83 antigen expression and its relationship with breast neoplasms.

Currently, new research is underway, with the aim of showing CD83 antigen expression and its significance in cases of other breast neoplasms. We consider that positive CD83 antigen expression in dendritic cells may be a biological marker relating to clinical tumor progression and may also have an important role in the immunological response against breast neoplasms.

We totally agree with Dr. Kapoor that this issue deserves careful study in order to improve our knowledge and, perhaps, open our minds to new thinking in relation to the progression and treatment of neoplasms.