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CDX2 as a Prognostic Biomarker in Colon Cancer

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The study reported by Dalerba et al. elegantly showed that lack of *CDX2* expression might be a negative prognostic factor in colon cancer. It also showed that lack of *CDX2* expression may be predictive of the efficacy of chemotherapy in patients with stage II cancer.

To underscore the power of these findings, we would more carefully consider the role of microsatellite instability and *BRAF* status. Associations between a lack of *CDX2* expression and microsatellite instability and *BRAF* mutation are known, and the prognostic and predictive implications of those markers have been extensively studied.¹⁻⁵ Moreover, microsatellite instability is currently a key factor in decision making regarding the treatment of patients with stage II cancer who have undergone radical resection.

In addition, in the study reported by Dalerba et al., a possible bias in patient selection may have limited the findings on the predictive role of *CDX2* expression. The available data were not derived from randomized trials comparing adjuvant chemotherapy with surgery alone. Given the association between *CDX2* and adverse prognostic features, patients with tumors that lacked *CDX2* expression, as compared with patients with *CDX2*-positive tumors, may have had a more aggressive disease. These aspects could have influenced the decision by treating physicians to withhold adjuvant chemotherapy from patients with poor clinical conditions.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

References

1. Lugli A, Tzankov A, Zlobec I, Terracciano LM. Differential diagnostic and functional role of the multi-marker phenotype CDX2/CK20/CK7 in colorectal cancer stratified by mismatch repair status. *Mod Pathol* 2008;21:1403–12. [PubMed: 18587323]

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2. Kim JH, Rhee YY, Bae JM, Cho NY, Kang GH. Loss of CDX2/ CK20 expression is associated with poorly differentiated carcinoma, the CpG island methylator phenotype, and adverse prognosis in microsatellite-unstable colorectal cancer. *Am J Surg Pathol* 2013;37:1532–41. [PubMed: 24025523]
3. Landau MS, Kuan SF, Chiosea S, Pai RK. BRAF-mutated microsatellite stable colorectal carcinoma: an aggressive adenocarcinoma with reduced CDX2 and increased cytokeratin 7 immuno-histochemical expression. *Hum Pathol* 2014;45:1704–12. [PubMed: 24908142]
4. Saridaki Z, Papadatos-Pastos D, Tzardi M, et al. BRAF mutations, microsatellite instability status and cyclin D1 expression predict metastatic colorectal patients' outcome. *Br J Cancer* 2010;102:1762–8. [PubMed: 20485284]
5. Souglakos J, Philips J, Wang R, et al. Prognostic and predictive value of common mutations for treatment response and survival in patients with metastatic colorectal cancer. *Br J Cancer* 2009;101:465–72. [PubMed: 19603024]