Letter to the Editor

Cancer Epidemiology, Biomarkers & Prevention

Collagen Alignment and Recurrence of DCIS—Letter

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In a recent publication, Conklin and colleagues reported that an orientation of collagen fibers perpendicular to the duct in the periductal stroma of ductal carcinoma *in situ* (DCIS) was correlated with features reported to be associated with poor prognosis, including comedo-necrosis and HER2 positivity (1).

We previously reported that the stroma surrounding DCIS can show either a sclerotic or a myxoid aspect, the latter being defined as an amorphous appearing stroma containing loosely arranged collagen fibers (2). In our studies, myxoid stroma was associated with loss of stromal decorin expression, with recurrence and with comedo-necrosis and HER2 positivity (2, 3).

The fact that both collagen fiber architecture and myxoid stroma are correlated with comedo-necrosis and HER2 positivity leads us to the obvious question whether there also exists a relation between collagen fiber architecture and myxoid stroma. The finding that targeted disruption of decorin leads to profound changes in collagen fiber architecture in mice skin (4) further justifies our question.

Therefore, it might be relevant that Conklin and colleagues evaluate whether perpendicular orientation of collagen fibers in the cases they studied is associated with a myxoid aspect of the periductal stroma. Myxoid stroma can easily be assessed on hematoxylin/eosin–stained slides (2).

The presence of such an association would mean that there exists a periductal interplay between the protein decorin, the myxoid substance in the stroma, and the architecture of collagen fibrils and that this interplay likely has a role in the behavior and recurrence risk of DCIS. Clearly, such an interplay would merit further investigation, and it would also imply that our definition of myxoid stroma should be refined by changing it from "an amorphous appearing stroma containing loosely arranged collagen fibers" to "an amorphous appearing stroma containing collagen fibers in a preferential perpendicular orientation relative to the duct."

Disclosure of Potential Conflicts of Interest

No potential conflicts of interest were disclosed.

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