Low-dose epirubicin inhibits ezrin-mediated metastatic behavior of breast cancer cells

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ABSTRACT

Aims and background. Overexpression of ezrin contributes to the progression and invasiveness of several human cancers; however, its role in breast cancer metastasis has not been investigated in detail.

Methods. Ezrin expression in tissue samples from patients with invasive ductal carcinoma of the breast was detected by immunohistochemistry. Ezrin expression in a breast cancer cell line was evaluated using Western blot and RT-PCR.

Results. Elevated expression of ezrin was associated with lymph node metastasis and poor prognosis in patients with invasive ductal carcinoma. Ezrin expression was related to the invasiveness of breast cancer cells in vitro. Low-dose epirubicin inhibited the migration of breast cancer cells in a concentration-dependent manner without promoting cytotoxicity in vitro and decreased the expression of ezrin in a concentration-dependent manner.

Conclusions. Low-dose epirubicin may be antimetastatic without promoting cytotoxic effects and could serve as a target for the development of therapeutics for breast carcinoma.

Key words: breast cancer, cell migration, epirubicin, ezrin.

Acknowledgments: This work was supported by the Key Oncologic Subject Foundation of Hebei Province (No. 200552), the Youth Natural Science Foundation of Hebei Province (No. C2009001212) and the Scientific Research Foundation of the Health Department of Hebei Province. We thank the members of the Laboratory of Experimental Pathology at Hebei Medical University for their technical assistance and those of the Breast Center of the Fourth Hospital of Hebei Medical University for providing materials.

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Received November 2, 2009; accepted July 8, 2010.