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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.

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