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Tissue expression of prohibitin I in breast cancer

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Background: Prohibitin (PHB) is a homologous protein that is highly conserved during evolution and was introduced for the first time as a suppressor gene of proliferation. Prohibitin has an essential role in cell cycle and is able to inhibit DNA transcription in many cell types. PHB1 in breast cancer cells binds to P53 and enhances the transcriptional activity of P53 through increased binding to DNA.

Aim: The aim of this study was to investigate the relationship between tissue distribution of PHB1 with prognostic factors in breast cancer.

Methodology: Paraffin blocks of 33 patients with breast cancer were used. These patients had referred to Omid University Hospital and had undergone surgery and mastectomy. Pathologic information of patients (including disease stage, tumor size, tumor grade, and hormone receptor status) were collected from their medical records. Tissue expression was examined by immunohistochemistry (IHC) method. The relationship between tissue expression of PHB1 with prognostic factors in breast cancer was analyzed.

Results: IHC studies showed increased tissue expression of prohibitin along with an increase in grade and expression of ER and PR receptors. Tissue expression of PHB1 had a significant relationship with these three factors. Compared to other prognostic factors, no statistically significant relationship was observed.

Conclusion: The results of this study indicated an increase in PHB1 expression in breast cancer tumor samples as compared to healthy margin. Its statistically significant relationship with some prognostic factors can suggest an increase in the rate of prohibitin tissue expression along with increased disease grade.

Biography

Farnaz Zahedi Avval received her MD from Mashhad University of Medical Sciences, Iran. She completed her PhD from Karolinska Institute, Sweden. She has published several papers in reputed journals and has been serving as an Assistant Professor in Clinical Biochemistry at Mashhad University of Medical Sciences, Iran.

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