

## ACE and ACE2 Protein Expression Changes with Tumour Grade in Invasive Ductal Carcinomas.

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Renin-angiotensin system is mainly known as a regulator of cardiovascular homeostasis. The aim of the present study was to determine the immunohistochemical expression of angiotensin-converting enzyme and angiotensin-converting enzyme 2 in non-tumorous breast tissue and in G1, G2 and G3 invasive ductal carcinomas, using immunoperoxidase method on formalin fixed paraffin embedded tissue sections from 10 samples of non-tumorous breast tissue and 30 cases of invasive ductal carcinoma. It was found that ACE was located only in ductal epithelium, while in invasive carcinomas, stromal cells were also positive for ACE. Intensity of staining increased with tumour grade. None of the examined invasive carcinomas showed positive staining for ACE2 in tumour epithelial cells, but weak staining was observed in stromal cells adjacent to tumour epithelial cells. In higher grade tumours, less stromal cells were positive for ACE2. These observations suggest that ACE and ACE2 may be involved in the pathogenesis of breast cancer.

*Key words:* breast cancer, ACE, ACE2