

Ultrastructural cytochemical study of enzymes expressed by signet ring cells in gastric cancer

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Abstract

AIM: To study the ultrastructural localization of five marker enzymes (ALPase, ACPase, G6Pase, TPPase and CCOase) in gastric cancer signet ring cells to demonstrate their biologic behaviors.

METHODS: Five marker enzymes were examined in signet ring cells of seven gastric cancer patients by ultrastructural enzyme cytochemi-

cal techniques.

RESULTS: The number of corresponding organelles and the activities of marker enzymes, especially ACPase and TPPase, increased, leading to stronger mucus synthesis, secretion and digestion in gastric cancer signet ring cells. There was a lack of collagenous fibers in the stroma around the cancer nests.

CONCLUSION: Signet ring cell carcinoma is very invasive with metastasis rates due to the secretion of proteolytic enzymes.

Key words: Stomach neoplasms/enzymology; Carcinoma, signet ring cell/enzymology; Alkaline phosphatase/analysis; Acid phosphatase/analysis

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