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Expression of leptin and leptin receptors in colorectal cancer-an immunohistochemical study

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Abstract

Obesity is demonstrated to be a risk factor in the development of cancers of various organs, such as colon, prostate, pancreas and so on. Leptine (LEP) is the most renowned of the adipokines. As a hormone, it mediates its effect through leptin receptor (LEPR), which is widely expressed in various tissues including colon mucosa. In this study, we have investigated the degree of expression of LEP and LEPR in colorectal cancer (CRC). We collected 44 surgically resected colon cancer tissues along with normal adjacent colon tissue (NACT) from a sample of CRC patients from the Malaysian population and looked for leptin and leptin receptors using immunohistochemistry (IHC). All the samples showed low presence of both LEP and LEPR in NACT, while both LEP and LEPR were present at high intensity in the cancerous tissues with 100% and 97.7% prevalence, respectively. Both were sparsed in the cytoplasm and were concentrated beneath the cell membrane. However, we did not find any significant correlation between their expression and pathological parameters like grade, tumor size, and lymph node involvement. Our study further emphasizes the possible causal role of LEP and LEPR with CRC, and also the prospect of using LEPR as a possible therapeutic target.

Keywords

Author Keywords: [Colorectal cancer](#); [Immunohistochemistry](#); [Leptin receptor](#); [Leptin](#); [Leptin receptor phenotype](#); [LEP](#); [LEPR](#)
KeyWords Plus: [OBESITY HORMONE LEPTIN](#); [CENTRAL-NERVOUS-SYSTEM](#); [COLON-CANCER](#); [BREAST-CANCER](#); [SERUM LEPTIN](#); [MESSENGER-RNA](#); [EPITHELIAL-CELLS](#); [ADIPOSE-TISSUE](#); [PLASMA LEPTIN](#); [GROWTH-FACTOR](#)

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