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Expression of leptin and leptin receptors in colorectal cancer—an immunohistochemical study (Article) (Open Access)

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Abstract

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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. Copyright 2019 Al-Shibli et al.

SciVal Topic Prominence

Topic: Leptin | Adiponectin | Leptin receptor

Prominence percentile: 95.154

Author keywords

Colorectal cancer | Immunohistochemistry | LEP | LEPR | Leptin | Leptin receptor | Leptin receptor phenotype

Indexed keywords

EMTREE drug terms: leptin | leptin receptor

EMTREE medical terms:

adult | aged | Article | cancer grading | cancer tissue | cell membrane | clinical article | colon tissue | colorectal cancer | colorectal carcinoma | controlled study | cytoplasm | female | histopathology | human | human cell | human tissue | immunohistochemistry | lymph node metastasis | Malaysian | male | middle aged | protein expression | protein function | tumor differentiation | tumor volume | very elderly

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