

ARID1A protein expression in human colorectal cancer

by immunohistochemistry: A preliminary study

(การศึกษาเบื้องต้นเกี่ยวกับการแสดงออกของโปรตีน ARID1A ในมะเร็งลำไส้ใหญ่ของมนุษย์โดยวิธีการ
ย้อมอิมมูโนฮิสโตเคมี)

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Abstract

Introduction: Losing and/or decreasing of the chromatin-remodeling protein named AT-rich interactive protein-1A (ARID1A) has been studied in several cancers such as endometrial, gastric and colorectal carcinoma. An alteration of ARID1A may involve in metastasis and invasive mechanisms of cancer.

Objective: This preliminary study aimed to investigate the expression of ARID1A protein using immunohistochemical staining in various grading of colorectal cancer.

Methodology: This study was examined in human colorectal cancer (CRC) tissues: 3 cases of well differentiated adenocarcinoma and 2 cases of moderately differentiated adenocarcinoma. We observed the expression of ARID1A protein with the evidence of invasive and metastasis of cancer. This study was approved by the human ethic committee of Sawanpracharak hospital (no.16/2560)

Result: The pilot results showed that the losing of ARID1A protein was found at the adenocarcinoma area compared with normal area of intestinal glands in the same case. Additionally, CRC with moderately differentiated adenocarcinoma showed the decreasing or losing of ARID1A protein staining at adenocarcinoma area more than those in well differentiated adenocarcinoma. These results were likely correlated with the distant of invasive and metastasis of cancer. **Conclusion:** Therefore, ARID1A protein may be linked to the histological grade or invasive and metastasis of CRC. Our results was similar to the previous studied which has been reported loss of ARID1A in CRC with microsatellite instability. Moreover, the previous study suggested that this knowledge may have the benefit to therapeutics which target chromatin-modifying enzymes. However, this study should be more investigated to elucidate the association of ARID1A protein and CRC, which we plan to investigate in various CRC cases and define the relation with P53 which reported as a counterpart protein with ARID1A.

Keyword ARID1A, Colorectal cancer, Immunohistochemistry