Serum Amphiregulin in Colorectal Carcinoma and The Correlation with Liver Metastasis in King Chulalongkorn Memorial Hospital

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**Background:** Amphiregulin (AREG) is one of the epidermal growth factor receptor (EGFR) ligands and play important roles in several tumor progression and metastasis. Upregulations of AREG in colonic carcinoma tissue have been shown to correlate with depth of tumor invasion, nerve invasion and liver metastasis. We sought to investigate a correlation of serum AREG in colorectal cancer with clinicopathological parameters and liver metastasis.

**Method:** Colorectal cancer patients who came to receive treatment at our institute during August 2013 to March 2014 were enrolled. We collected baseline serum prior to start any therapy and stored till analysis. Serum AREG was measured by ELISA using Human Amphiregulin DuoSet (R&D Systems, Minneapolis, MN). The correlation between each independent clinicopathological characteristics and serum AREG was analysed.

**Results:** There were 120 patients enrolled to current analysis which included 78 patients (65.5%) with stage I-III and 41 patients (34.5%) in advanced stage. In advanced disease group, the median level of serum AREG was 31.55 pg/mL, which was higher than those of the localized disease group 15.48 pg/mL, p=0.001. With correlation analyses, serum AREG higher than 25 pg/mL (high serum AREG) had significantly correlate with liver and peritoneal metastasis (p<0.001). Additionally, high serum AREG had significant correlation with more poor differentiated/mucinous histological grade (p=0.014), M1 (p=0.001), lymphovascular invasion (p=0.016) and perineural invasion (p<0.001).

**Conclusion:** High serum AREG (>25 pg/mL) has correlation with liver and peritoneal metastasis and has a potential impact as a prognostic marker in colorectal carcinoma.