Significance of CD204 positive tumor-associated macrophages in malignant transformation of colorectal adenoma

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Introduction
Colorectal adenoma is well known as a precursor lesion of colorectal adenocarcinoma (ADC) through a traditional adenoma-carcinoma sequence. Tumor-associated macrophages (TAM), conditioned by the tumor-microenvironment have been known to present in tumor tissues and a higher level of TAM infiltration is associated with lower survival rates in several human malignant tumors. We recently reported that CD204 positive TAM was an independent risk factor in malignant transformation of gastric adenoma. [D Taniyama, K Taniyama, W Yasui et al. Gastic Cancer, 2017]

However, the roles of TAM in an adenoma-carcinoma sequence remain unclear in colorectum. The aim of this study is to clarify the characteristics of TAM in an adenoma-carcinoma sequence in colorectum.

Materials
Adenomas: Among polyps removed via endoscopic mucosal resection at the National Hospital Organization, Kure Medical Center and Chugoku Chukogu Center between 2014 to 2017, 88 tubular or tubulovillous adenomas were randomly selected and grouped into L or H according to their degrees of mucosal atypia.

Group L: mild atypia, 24; moderate atypia, 24; Group H: severe atypia, 21

Intumucosal ADC in adenoma, 19

Results
Comparison of CD204 positive TAM and other immunohistochemical results

Univariate and multivariate analysis of factors for malignant transformation of colorectal adenoma

Conclusion
CD204 positive TAM may play a significant role in the malignant transformation of colorectal adenoma in association with angiogenesis, proliferative activity and p53 protein expression of the tumor. We are now assessing the role of CD204 positive TAM in serrated pathway. As for a goal, we figure out the TAM function in adenoma-carcinoma sequence.