구연발표 II-2

Preoperative Genetic Diagnosis of Gastric Carcinoma based on Chromosomal Loss and MSI

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The degree of chromosomal losses and the presence of microsatellite instability (MSI) in gastric carcinomas have been categorized into low-risk (low-level loss and MSI) and high-risk (baseline- and high-level losses) genotypes. With the aim of making a preoperative diagnosis, this study confirmed the stem line genotype that is common over an entire tumor as well as in a single biopsy specimen. Biopsy specimens were obtained from 91 gastric carcinoma patients and examined for their microsatellite genotypes using a panel of 41 microsatellite markers on 8 cancer-associated chromosomes. The genotype of the biopsy specimens was compared with that of a surgical specimen, which had been multifocally examined for its intratumoral heterogeneity. Of the 91 pairs of biopsy and surgical specimens, 87 (96%) containing either the same (60 cases) or a similar (17 cases) number of chromosomal losses were categorized into the same microsatellite genotype, and the remaining 4 pairs (4%) were classified into a different genotype. The surgical specimens showed that an extraserosal invasion and lymph node metastasis are frequently associated with either a high-level (4 or more) of chromosomal losses irrespective of the tumor size (73% and 85%) or the large carcinomas $>$ 5 cm in diameter irrespective of the tumor genotype (76% and 83%). The status of the extraserosal invasion and lymph node metastasis (0.691 and 0.802 receiver operating characteristic areas, respectively) predicted by the biopsy genotype and the tumor size corresponded closely to the surgical pathology results. Therefore, the extent of chromosomal losses and the presence of an MSI determined on a biopsy specimen will provide valuable information for making a preoperative genetic diagnosis of a gastric carcinoma.