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Letter to the Editor

Evaluation of DNA-ploidy heterogeneity in gastric cancers *

To the Editor,

Prognostic value of DNA-ploidy in gastric cancers is still a matter of controversy. A possible explanation for the discrepant results reported in the literature could be sampling error in tumours with multiple stemlines differing in DNA-ploidy [2,4].

In order to determine whether or not such heterogeneity exists and play a role in biology of gastric cancers we have analysed two different types of gastric carcinoma; the early gastric carcinoma (EGC) and the advanced gastric carcinoma (AGC).

We have performed DNA-ploidy analysis on multiple samples providing from a group of 17 EGC of which 8 were pure intramucosal and 9 were infiltrating into the sub-mucosa. Then we have analysed 16 AGC, according to the same procedure.

We found an aneuploid DNA-stemline in 8 EGC (47%) more often in tumours invading into the submucosa (5/9) than in pure mucosal tumours (3/8). Multiple DNA-stemlines were found more frequently in submucosal infiltrating tumours (4/5) [3].

From the 16 AGC cases, 15 revealed DNA-aneuploid with heterogeneity in 4 cases (26%).

In conclusion we have reported that 53% of EGC were diploid compared to only 6% of AGC. Heterogeneity was found in 13% intramucosal EGC, 44% in submucosal EGC and 26% of AGC [1].

These results are consistent with the hypothesis of stepwise ploidy progression: from diploid in most EGC to aneuploid but heterogeneous in infiltrating EGC to aneuploid but homogeneous in AGC.

This is in agreement with the notion that the development of a single aneuploid, more aggressive, cell clone is a crucial mechanism in the progression from early to advanced gastric cancer.

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