

Sto 01**INTESTINAL AND DIFFUSE TYPE OF GASTRIC CARCINOMA: TWO CLINICAL ENTITIES.**

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The histological classification according to Laurén differentiates between the intestinal and the diffuse type. These two types differ with respect to a) epidemiology, b) etiology and pathogenesis, c) stage of disease at the time of diagnosis, and d) growth pattern.

Especially on the basis of the different growth pattern a histology-oriented surgical approach has been achieved: the proximal margin of clearance is chosen according to the Laurén type, it should be greater than 5 cm measured on the fresh non-stretched specimen corresponding to about 10 cm in situ. In advanced intestinal type as well as in early carcinoma of both types, the proximal margins of clearance may be reduced to 2-3 cm and 4-5 cm respectively. If these margins of clearance are obtained, the results of surgery are equal in intestinal and diffuse type carcinoma, otherwise the prognosis of diffuse type is worse than in intestinal type.

Table. Prognosis after curative total or subtotal gastrectomy (postoperative deaths excluded)

patient group	p m cl *)	n	5-y s **)
early carcinoma	> 2.0 cm	118	86 ± 11 %
advanced/intestinal	> 2.0 cm	224	47 ± 9 %
advanced/diffuse	< 5.0 cm	190	24 ± 7 %
advanced/diffuse	> 5.0 cm	100	50 ± 13 %

*) proximal margin of clearance, measured on the fresh non-stretched specimen

***) 5-year survival, actuarial method, age-corrected, 95 % confidence interval, Dept.Surg.Univ.Erlangen, 1969-1983/1984-12-31

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Sto 02**HISTOTOPOGRAPHICAL STUDY OF STOMACHS RESECTED FOR CARCINOMA**

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Gastric carcinoma (GC) mortality in Chile is among the highest in the world, second only to Japan. GC is also the most lethal cancer in Chile (E.Medina: Cancer Gastrico, 2nd.ed. A.Bello, Santiago 1984. 1-10). This prospective morphological study of 25 cases collected between 1983 and 1985 is aimed at a detailed characterization of the pathology of GC which is lacking in our area. The specimens from partial or total gastrectomy were processed according to Mochizuki (GANN Monogr. 11: 57, 1971). Tumoral spread was established microscopically; the lymph nodes were classified in groups and "barriers" according to tumor site, which was more often at the lesser curvature and antrum. - The 20 male and 5 female patients covered an age range from 32 to 74 yrs (mean: 56.1). 5 cases were early GC acc. to the Japanese classification, 3 of them well differentiated, one with local metastasis. The rest were advanced GC, predominantly types Borrmann III and IV, and poorly differentiated, tubular, and mixed forms, in an even proportion of the two Laurén types. The "diffuse" type was more often large (Borrmann III and IV). Tumors of less than 10 cm² were mostly of "intestinal" type. Metastatic spread was stronger in the poorly differentiated forms. Mucosal dysplasia was found in 19 cases, 3 of them severe (E. Grundmann, Beitr Path 154: 256, 1975). Like intestinal metaplasia, dysplasia showed no clear association with a specific histologic type. The histologic heterogeneity of GC is evident. Although further studies are needed for definitive conclusions, the method used allows for an accurate staging of prognostic significance.

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Sto 03**STOMACH SIGNET-RING CANCER CELL LINE (MZ-STO-1), ESTABLISHED IN TISSUE CULTURE: MORPHOLOGICAL CHARACTERIZATION AND ANTIGENIC PROFILE.**

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Stomach cancer has not only a high incidence in Japan, but also in Europe. The biology of these tumors has not been studied very extensively. Here we describe for the first time the morphological, chromosomal and antigenic features of a newly established signet-ring carcinoma cell line of the stomach.

A human gastric signet-ring cancer cell line was established in tissue culture from the ascites fluid of a 54 year old patient. Histological examination of the primary tumor revealed a poorly differentiated adenocarcinoma with islets of signet-ring cells. The tumor cells growing in tissue culture exhibit the morphological characteristics of signet ring cells in phase contrast and transmission electron microscopy. They are filled with membrane bound vacuoles, which contain flocculent translucent material and push the nucleus to the periphery. The cells grow as monolayer with a doubling time of 28-36 hrs and have a chromosome number between 72-74. The cell line secretes 80-150 ng CEA per 10⁶ cells/day, but no AFP. The cell surface phenotype of Mz-Sto-1 is compared with two already established gastric cancer cell lines MKN-28 and MKN 45 employing a series of monoclonal antibodies. HLA- and blood group related antigens (A. Lewis) antigens are detectable on the cell surface of all three gastric cancer lines, but a number of other tumor-associated antigens are only on one or two of the cell lines. Particularly interesting is, that none of the cell lines expresses HLA-DR, normal stomach epithelium however does. The cell line is the first signet-ring cell line characterized and will be a valuable tool to study the biology of gastric carcinoma, to test cytostatic drugs and to define new antigenic markers for stomach cancer. I. Med. Klinik, Johannes Gutenberg-Universität, 6500 Mainz, West-Germany

Sto 04**HISTOLOGICAL AND IMMUNOHISTOLOGICAL CHARACTERIZATION OF GASTRIC CANCER XENOGRAFTS**

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Experimental tumors in mice and rats are needed as models to study the tumor biology. Human tumors have grown successfully in athymic nude mice. However, if tumors grown in long term passage shall be considered as valuable models, it has to be investigated, that they don't change their biological behaviour in comparison with the donor tumor. This study was designed to compare CEA expression with tumor take rate and growth characteristics in nude mice. 44 stomach cancers obtained at surgery were transplanted into nude mice (NMRI). Two perpendicular diameters were measured every second week and their product was taken as a measure for tumor size. CEA was demonstrated by using the indirect immunoperoxidase technique. A take rate of 68% (30/44 cases) was obtained for all gastric carcinomas. The take rate was not influenced by the degree of tumor differentiation, nor by CEA staining behaviour, mucin production, the amount of stroma and the sex of the patients. However, tumors of patients, who had hematogenous metastases at the time of surgery showed a higher take rate and a more rapid growth. An increased differentiation of the xenografts was observed more frequently than the reversion to a more undifferentiated picture. From the 35 donor tumors studied for CEA, 28 were tissue positive and 7 negative. In serial passages, no change in the CEA content was observed. The observation that the take rate and the growth velocity are independent of CEA expression is in noticeable concordance with our finding that the tumor stage, tumor grade and prognosis in gastric cancer patients are also independent of the CEA production.

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