

DIAGNOSIS AND TREATMENT OF UPPER GASTROINTESTINAL TUMORS

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Diagnosis and treatment of upper gastrointestinal tumors

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Opening remarks

It is a great honour for me to open the International Congress on Diagnosis and Treatment of Upper Gastrointestinal Tumors here in Mainz and to extend warm greetings to all participants. Special greetings are extended to all speakers who have come to Mainz from all over the world in order to present their research. Your presence here today has made it possible to exchange scientific ideas on an international level.

The speakers represent several specialties including radiology, surgery and internal medicine. Interdisciplinary teamwork is a necessary condition to fight cancer successfully. All medical activities of the above mentioned specialties are presented within the framework of oncology. It includes preventive medicine, diagnosis, therapeutic planning as well as follow-up treatment. From Germany's point of view this is the first mutual cancer convention founded under the auspices of the Committee of Surgical Oncology of the German Society of Surgery, the Section of Medical Oncology of the German Cancer Society and the Tumor Centre Mainz.

The convention is concerned with malignant tumors of the esophagus, the stomach, the liver and the pancreas. Significant progress has been made in diagnosis of these malignant tumors. The radiologic examinations have been supported by additional procedures such as endoscopy, ultrasound, CT-scanning and angiography. These examinations make it possible to determine the dynamics of the tumor before surgery. The clinical tumor staging makes it easier to plan a therapeutic program on an interdisciplinary basis. The final tumor classification is determined by the surgical pathology which is also necessary for documentation and clinical research.

Present endoscopic and radiologic diagnostic possibilities are still inadequate for cancer prevention and early diagnosis in gastroenterology. This is particularly apparent concerning the tumors of esophagus, stomach and pancreas. Since the most effective treatment of these cancers is still surgical, early recognition of the tumors is desirable for curative operations. Early recognition can be improved by optimal individual diagnosis and follow-up for high-risk groups. There is a positive correlation between early diagnosis and curative treatment in these tumors which suggests that an early diagnosis is essential for an optimistic prognosis.

As a surgeon permit me to make a few statements concerning operative treatment. It is my opinion that tumor surgery of the esophagus,

Opening remarks

the stomach, the liver and the pancreas has reached its technological boundaries. In other words: progress in surgical technique will not significantly improve the clinical results.

The surgeon's decision as to which operative procedure to employ is determined by three factors: (1) the individual tumor, its size and extension; (2) the individual characteristics of the patient, his risk factors, age and concomitant diseases, which may limit surgical options – that means that we must consider risk and benefit for the patient; (3) it is determined by the individual characteristics of the surgeon such as capability in defining the tumor stage, his individual position towards the smaller or larger operative procedure, it is determined by his education and training, finally by his capability to adequately replace the esophagus and stomach and to resect parts of the liver or the pancreas partially or totally; also, hospital facilities have to be adequate to perform these procedures.

The stomach has proven to be a good replacement for the esophagus. It is pulled up cranially towards the neck (either intramediastinal or retrosternal), a procedure which is possible even for inoperable carcinoma as a bypass procedure.

In carcinoma of the stomach one should ask the following questions: Should total gastrectomy be the treatment of choice? (operation 'en principe'), or is there still a place for subtotal gastrectomy? Apart from tumor resection a lymphadenectomy as radical as possible should be performed. The role of surgery in pancreatic cancer, which is one of my special fields of interest, is to define the most effective therapy for ductal carcinoma of the pancreas. Operative treatment must be individual and depends upon the tumor stage. Total pancreatectomy combined with lymphadenectomy appears to be the surgical procedure preferred when radical treatment is selected. Also the various types of resections in primary tumors of the liver and in liver metastases are widely standardized. Other possibilities concerning tumors of the liver are arterial perfusions using cytostatic substances.

Radiation therapy has become of paramount importance in esophageal carcinoma. It is used as preoperative treatment as well as a palliative management in nonresectable tumors. As far as the effect of an adjuvant radiotherapy in gastric cancer is concerned, I am curious to hear what the related papers have to offer during this convention.

The role of chemotherapy in gastrointestinal tumors has been intensively researched in the last few years using a great variety of cytostatic drugs. Their effect on cancer of the esophagus, stomach, liver and pancreas will be reported by numerous speakers from all over the world.

A multidisciplinary approach to cancer treatment is one of the preconditions for a successful treatment. That is the message of this con-

vention. Thinking within and beyond the limits of medical specialties is necessary. Free exchange of information facilitates the decisions of the physicians involved and assures the continuity necessary for the cancer patient.

Oncology is a challenge for interdisciplinary teamwork. A challenge for you, ladies and gentlemen, is our beautiful 2000 year old city of Mainz situated on the river Rhein. I hope you will enjoy your stay.

In conclusion I wish to express my gratitude to Farmitalia Carlo Erba Comp., our sponsor, who has made this convention possible with their generous financial support. For preparation and organisation of this meeting I wish to express thanks to Prof Praga, Dr Musil and Mr Schäfers.

Prof, Dr F. Kümmerle
Direktor der Chirurgischen Universitäts-Klinik, Mainz

Welcome address

Ladies and Gentlemen,

It is my pleasure to welcome you as participants of this congress. The object of the congress is 'diagnosis and treatment of tumors of the upper gastrointestinal tract', a problem not often found on the list of themes for international congresses, which nevertheless possesses great importance.

For the tumor centre Mainz, co-organizer of the congress together with the surgical working section for oncology of the German Society of Surgery and the Co-Operative of Internal Oncologists in the German Cancer Society, this congress signifies the culmination of its function so far.

The tumor centre was established in October 1977 to mark the quincentenary of the Johannes Gutenberg-University and shall remain a lasting memory to this important birthday of the university. A considerable portion of the donation made on the occasion of the quincentenary celebration allowed the foundation of this tumor centre. Yet, although the initiative was then taken by the University, the tumor centre was deliberately not constituted as installation of the university but as an institution in which all may participate who actively participate in the improvement to combat cancer.

Up to now there are 22 tumor centres in the Federal Republic of Germany. All were established within the last 3-4 years with the aim to further the sadly neglected oncology in this country. A peculiarity of the Mainz tumor centre exists in the fact – and in this it differs from all other centres – that its activities are not limited to the scientists and the scientific and clinical establishments of the university, but to endeavour to spread the accumulated knowledge widely at the disposal of doctors and patients all over the country.

An area covering provision for doctors with important new perceptions appeared to the initiators of the tumor centre Mainz as possibility to combat cancer unused so far. Means to secure this 'area covered provision' are amongst others a telephone information service, regular advanced training seminars in oncological workshops in Mainz, Koblenz, Treves and Ludwigshafen and a special library open to all doctors.

We appreciate the participation of so many prominent scientists as an obligation to the Mainz tumor centre, to continue and intensify the efforts to fulfill its mission and aims. We thank you for coming here,

Welcome address

some of you from very far indeed: as far as I understand some of you are even from China.

Ladies and gentlemen you find yourself in an ancient German city. Mainz looks back upon 2000 years in history, it has a 1000-year-old cathedral and a 500-year-old university, the latter having a good tradition in the field of medicine. I sincerely hope you feel at home here and find time to enjoy the inheritance left by the Romans, the wine. I wish you pleasant days in Mainz and a successful development of your congress.

Prof. Dr. jur. Manfred Harder
Präsident der Johannes Gutenberg Universität, Mainz

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I Diagnosis of upper gastrointestinal tumors

Chairpersons: W. Hunstein
M. Kurihara

Upper alimentary tract carcinoma: A radiologic perspective

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CARCINOMA OF THE ESOPHAGUS

Esophageal carcinoma still has a poor prognosis, mainly because the tumor has often spread beyond the confines of the esophagus by the time of presentation. Yamada et al. [24] found that 40% of esophageal carcinomas were operable at the time of diagnosis, while Pearson [20] considered that only 20% of patients had localized, potentially curable disease at inception of treatment. Usually, involvement of half the circumference of the esophagus is required to produce dysphagia.

Radiology

Two questions which are of especial relevance in the radiologic assessment of esophageal carcinoma are: (1) How accurate are we in detecting the tumor by radiologic means? (2) Do the radiologic findings relate to prognosis and prospective treatment?

Esophageal carcinoma is usually infiltrative in nature, often with an annular appearance in larger tumors and frequently a step-like upper margin, but may be polypoid in appearance (Fig. 1). Ulceration is a predominant feature in 10% of tumors [5]. Smaller tumors, less than 3.5 cm in diameter, usually appear as plaques or flat sessile polyps affecting one wall and occasionally have central ulceration [11] (Figs. 2 and 3).

Moss et al. [18] found the overall diagnostic accuracy of barium esophagograms to be low, although 73% of small carcinomas (less than 3.5 cm) were correctly diagnosed with 21% being misinterpreted as benign abnormalities and 6% as normal.

The double-contrast technique, using an esophageal tube, is considered by Itai et al. [10] to be essential in the detection of superficial esophageal carcinomas which are limited to the submucosa. In these cases, an irregular, rigid wall and mucosal abnormalities such as barium pooling and protrusions of various sizes and shapes are diagnostic features. Using their high quality double-contrast technique, Itai et al.



Fig. 1. Huge polypoid carcinoma of esophagus.

[9] have been able to demonstrate superficial diffuse granular lesions in the esophagus, most of which were leukoplakia with a few being due to superficial spreading carcinoma, acanthosis nigricans, esophagitis and moniliasis.

Yamada [25] found that almost all superficial type cancers and approximately half of polypoidal carcinomas were confined to the submucosa, while half of the ulcerated lesions and more than half of those cancers which were smoothly tapered invaded neighboring structures and were therefore inoperable. There was also a correlation between the extent of invasion and the length of the lesion, only 1 of 14 carcinomas being less than 4 cm long, but more than half the tumors which were over 10 cm long being found to have invaded neighboring structures. In summary, Yamada found that tumors which invaded neighboring structures tended to be annular, were larger than 8 cm and

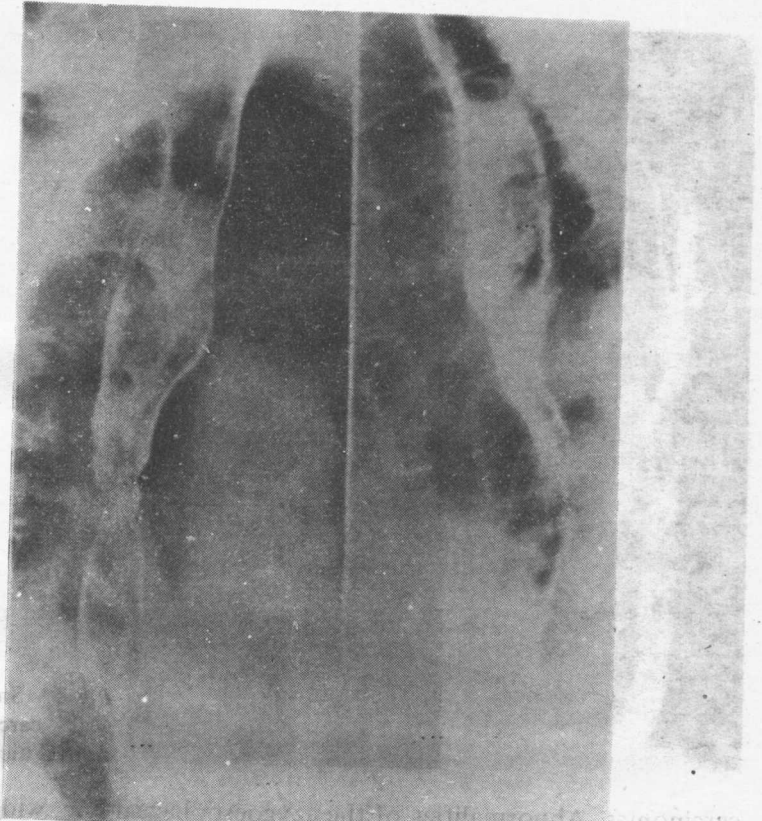


Fig. 2. Small infiltrating carcinoma of the middle third of the esophagus shown on double contrast esophagogram.

had ill-defined margins with deep ulceration. As a result, he was able to correctly diagnose extraesophageal invasion in 70-80% of cases. When the tumor was confined to the submucosa, all cases of those superficial carcinomas which were flat or elevated were not associated with lymph node metastases, while 50% of patients with elevated and superficially depressed contours had spread to regional lymph nodes. 5-yr survival rates were respectively 67 and 17% in the absence and presence of lymph node metastases.

Chest radiography

Lindell et al. [17] concluded that certain radiologic features on the plain chest radiograph were fairly common in cases of esophageal