Oral Oncol, Eur J Cancer, Vol. 28B, No. 1, pp. 5–6, 1992
Printed In Great Britain

0964–1955/92 $5.00 + 0.00

Report on the EORTC Salivary Gland Tumour Panel

In 1987 a new WHO group was established to prepare the second edition of the "WHO Histological Typing of Salivary Gland Tumours". On the occasion of the XIIth European Congress of Pathology in Porto, Portugal in September 1989, the preliminary result of a modified classification was reported on, and published in 1990 [1]. During the 5th Biennial Congress of the International Association of Oral Pathologists (IAOP) in Tokyo, July 1990 I gave a Special Main Lecture about the "Second Revised Edition of WHO International Classification of Salivary Gland Tumours". The definitive classification of the "WHO Histological Typing of Salivary Gland Tumours" was published in 1991 [2]. Additionally, a commentary on the second edition was submitted to *Cancer* [3].

Parallel to the WHO group, the European Organization for Research and Treatment of Cancer (EORTC) established a "Head and Neck Cancer Cooperative Group" with G.B. Snow (Amsterdam) and later J.L. Lefebvre (Lille) as Presidents. The EORTC organises meetings, multiple ongoing studies and publications. There are the following subcommittees:

—Subcommittee on Surgery (Dr Luboinski, Paris).
—Subcommittee on Chemotherapy (Dr Vermorken and Dr Schornagel, Amsterdam).
—Subcommittee on Pathology (Dr Carter, London and Surrey).
—Subcommittee on Radiotherapy (Dr Bernier).

The members of the Subcommittee on Pathology are:

—Dr R.L. Carter (Chairman), Department of Histopathology, The Royal Marsden Hospital London and Surrey, Dr Ch. Micheau, Departement d'Anatomie Pathologique, Villejuif/Paris, Dr F. Rilke, Divisione di Anatomia Patologica Istituto Nazionale per lo studio e la Cura del Tumori, Milano, Dr G. Seifert, Institute of Pathology, University of Hamburg, Dr van der Waal, Institute of Pathology, Hospital of the Free University of Amsterdam, Dr C. Brocheriou, Laboratoire Central d'Anatomie et de Cytologie Pathologiques, Hopital Saint Louis, Paris replaced Dr Micheau after his retirement in summer, 1991.

At the first meeting of the Subcommittee on Pathology in Amsterdam, in March 1988 the activities of this subcommittee were defined in two conclusions.

The subcommittee should act as a review panel for future clinical trials set up by the EORTC involving tumours where independent expert appraisal of tissue diagnoses were considered to be desirable. Such reviews would, in particular, be required for trials involving the rare and more debatable tumour types and would not be needed for squamous carcinomas.

The five centres represented by members of the pathology subcommittee—Amsterdam, Hamburg, Paris, Milan, London—should set up a combined, prospective survey of carcinomas of the salivary glands, independent of any specific EORTC clinical trials. The three main aims of the survey should be: the identification of more precise prognostic features; the establishment of closer clinico-pathological correlations and the consideration of modifications in existing classification of these tumours. Strong emphasis is placed on the combined pathological and clinical approach and on the close clinical follow-up.

To realise these aims, a clinical protocol and a pathology protocol were prepared. Since the establishment of the group in 1988 more than 400 tumour cases have been analysed and classified. Initially, the histopathological classification of the Salivary Gland Register, University of Hamburg was used [4]. Since 1991, the new classification of the second edition of the "WHO Histological Typing of Salivary Gland Tumours" has been utilised. In cases of agreement, the definitive classification of each tumour was settled. In cases of disagreement slides from certain debatable cases were recirculated and reviewed. Additionally, meetings were held in Amsterdam (Dr van der Waal), Hamburg (Dr Seifert), Milan (Dr Rilke) and Paris (Dr Micheau). A special review of 101 intra-oral salivary gland tumours from the Institute of Pathology, Free University of Amsterdam is in preparation for publication. Members of the subcommittee (Dr Carter, Dr Seifert, Dr van der Waal) are invited speakers of the postgraduate course on the "Diagnostic Aspects of Neoplastic and Non-neoplastic Diseases of the Salivary Glands" which was held in November 1991 in Amsterdam.

The applied "WHO Histological Classification of Salivary Gland Tumours" is summarised in Table 1. In contrast to the previous edition of the WHO published 20 years ago, the new edition is more extensive and detailed. The principles of classification are based on the following axioms:

The classification is orientated to the routine work of the surgical pathologist. The inclusion of rare but clearly defined tumour entities should be helpful to surgical pathologists consulting with clinicians.

The previous subdivision of adenomas into pleomorphic and monomorphic adenomas is too simple, because many of the monomorphic adenomas are neither monomorphic nor monocellular. Their distinct morphologic features justify a stronger separation. In addition, clearly defined, but uncommon or rare adenomas were categorised separately.

The various types of carcinomas are distinguished not only by precise histopathological definitions, but also by differences in prognosis and treatment. For this reason, a continuous separate listing of the various types of carcinomas is given rather than a histogenetic or other conceptual format. The term "tumour" was replaced by "carcinoma" in two entities: acinic cell carcinoma and mucoepidermoid carcinoma.

The tumour-like lesions were described in more detail. They present as swellings or induration of the salivary glands thought on clinical grounds to be tumours. Seven entities were considered: sialadenosis, oncocytosis, necrotising sialometaplasia, benign lympoepithelial lesion, salivary duct cysts, chronic sclerosing sialadenitis of the submandibular gland and cystic lymphoid hyperplasia in AIDS [5].

In routine work the value of immunohistochemistry is limited and helpful only in some problems of tumour classification (e.g. amylase in acinic cell carcinoma; S-100 protein,

Received 30 Oct. 1991; accepted 1 Nov. 1991.

Table 1. Histological classification of salivary gland tumours

1	Adenomas	
1.1	Pleomorphic adenoma	8940/0*
1.2	Myoepithelioma (myoepithelial adenoma)	8982/0
1.3	Basal cell adenoma	8147/0
1.4	Warthin tumour (adenolymphoma)	8561/0
1.5	Oncocytoma (oncocytic adenoma)	8290/0
1.6	Canalicular adenoma	
1.7	Sebaceous adenoma	8410/0
1.8	Ductal papilloma	8503/0
1.8.1	Inverted ductal papilloma	8053/0
1.8.2	Intraductal papilloma	8503/0
1.8.3	Sialadenoma papilliferum	8260/0
1.9	Cystadenoma	8440/0
1.9.1	Papillary cystadenoma	8450/0
1.9.2	Mucinous cystadenoma	8470/0
2	Carcinomas	
2.1	Acinic cell carcinoma	8550/3
2.2	Mucoepidermoid carcinoma	8430/3
2.3	Adenoid cystic carcinoma	8200/3
2.4	Polymorphous low-grade adenocarcinoma (terminal duct adenocarcinoma)	
2.5	Epithelial-myoepithelial carcinoma	
2.6	Basal cell adenocarcinoma	8147/3
2.7	Sebaceous carcinoma	8410/3
2.8	Papillary cystadenocarcinoma	8450/3
2.9	Mucinous adenocarcinoma	8480/3
2.10	Oncocytic carcinoma	8290/3
2.11	Salivary duct carcinoma	8500/3
2.12	Adenocarcinoma	8140/3
2.13	Malignant myoepthelioma (myoepithelial carcinoma)	8982/3
2.14	Carcinoma in pleomorphic adenoma (malignant mixed tumour)	8941/3
2.15	Squamous cell carcinoma	8070/3
2.16	Small cell carcinoma	8041/3
2.17	Undifferentiated carcinoma	8020/3
2.18	Other carcinomas	
3	Non-epithelial tumours	
4	Malignant lymphomas	
5	Secondary tumours	
6	Unclassified tumours	
7	Tumour-like lesions	
7.1	Sialadenosis	71000
7.2	Oncocytosis	73050
7.3	Necrotising sialometaplasia (salivary gland infarction)	73220
7.4	Benign lymphoepithelial lesion	72240
7.5	Salivary gland cysts	33400
7.6	Chronic sclerosing sialadenitis of submandibular gland (Küttner tumour)	45000
7.7	Cystic lymphoid hyperplasia in AIDS	

*Morphology code of the International Classification of Diseases for Oncology (ICD-O) and the Systemized Nomenclature of Medicine (SNOMED).

actin or myosin for the identification of myoepithelial cells; cytokeratin and leucocyte common antigen for the distinction between undifferentiated carcinomas and malignant lymphomas, etc.). Cytophotometry of DNA content can be helpful in the evaluation of mucoepidermoid carcinomas and adenoid cystic carcinomas.

In conclusion, the modifications and additions that characterise the revised WHO classification expand it but do not radically change it. They should ensure relevance while maintaining continuity to permit comparison with data based on the first WHO edition.

Gerhard J. Seifert
Institute of Pathology
University of Hamburg
Martinstr. 52 UKE
D-2000 Hamburg 20
Germany

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