Proceedings of the 1974 Annual Meeting
of the Deutsche Gesellschaft für Neurochirurgie, Bochum

Compiled by

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The 25th annual meeting of the Deutsche Gesellschaft für Neurochirurgie was held in Bochum on September 22nd to 25th, 1974. The president of the congress was Dr. Klug, head of the Neurosurgical Clinic at the Knappskraftkrankenhaus in Bochum-Langendreer, where the "father" of German Neurosurgery, Prof. Wilhelm Tönnis, continued his great work after the second world war.

In his opening speech, the congress president discussed the development and present situation of neurosurgery in Germany. He noted that neurosurgery has become not only a recognized and firm section of the medical field as a whole, but that it had become integrated at an international level as well. Today's neurosurgery combines the best of the past and the present and leaves the way open for a hopeful future.

The chief topics of the meeting were "meningiomas and the problems associated with their treatment", "multiple sclerosis as a diagnostic error" and "forensic problems in neurosurgery". In addition, a number of interesting papers were presented under "free topics".

The complete version of the papers together with the illustrations will be published in "Advances in Neurosurgery 2", Springer-Verlag, Berlin-Heidelberg-New York.

I. Problems Associated with the Treatment of Meningiomas

Zülch, K. J., and H. D. Mennel (Köln): The Question of Malignancy in Meningiomas.

Malignancy in meningiomas, its correlation to morphological subgroups and the difference between malignant meningiomas and sarcomas has been discussed since the early meticulous description of meningiomas by Bailey-Cushing and Eisenhardt. In our evaluation of these tumors we have used a grading scale, which was developed for all intracranial and spinal tumors; this scale is influenced by the survival tables of Bailey and Cushing and by Kernohan's grading. Meningiomas in general are classified as grade I (benign), atypical meningiomas as grade II (semibenign), whilst the true malignant meningiomas, which are still recognizable as such, as grade III (semimalignant). The highest degree of malignancy (IV) is reached only by
meningeal sarcomas, which might include some anaplastic malignant meningiomas.

In our collection of 9000 nervous system tumors there were about 1400 meningiomas, i.e. 16%. Only half of them could be evaluated statistically. Amongst 624 meningiomas, 9.1% were histologically not benign. Pretreatment history in patients with malignant meningiomas was clearly shorter than in patients with benign and atypical tumors. There is no female preponderance in malignant meningiomas in contrast to the benign forms. Localization is also different in both groups.

The statistical analysis, however, does not clarify the cause of malignant growth. Similarly, the correlation of malignant behaviour to the various subgroups does not provide any further information.

Recurrence in meningiomas is chiefly dependent on the grade of surgical removal; histological signs of anaplasia, however, indicate the intrinsic biological properties of a given tumor entity.

Histological signs of anaplasia may be numerous; not all must be present for the diagnosis of malignancy in every tumor group. Thus, in the case of meningiomas, cellular polymorphism is known to occur especially in definite subgroups and has no influence whatsoever on its biology. In meningiomas, we may find the following indications of rapid growth:

1. Increased number of mitoses, especially atypical.
2. Low differentiation, i.e. loss of organoid structure.
3. Infiltrative growth and metastases.

Conclusion from recent results of experimental tumor research in the nervous system can be applied to man only with caution. The species in question seems to influence strongly the morphology and localization of induced (and spontaneous) tumours. In the experiments with resorptive carcinogens, malignant neurinomas of the nerve roots and of the trigeminal nerve prevail in rats; they are rare in man. In contrast, meningiomas, so frequent in human pathology, are only exceptionally met in animals; here, malignant meningeal sarcomas also occur occasionally.

Human meningiomas are one of the few neoplastic diseases where a constant chromosomal aberration is known. Disturbances of karyotype exceeding this aberration have been correlated with malignancy.

Only large series of cases which include clinical history and pathological analysis allow the establishment of secure histological criteria of malignancy in meningiomas. The tumors with atypical growth and the malignant forms are therefore of great importance.


Four tumors diagnosed by light microscopy as being malignant meningiomas and one diagnosed as a meningosarcoma were examined through the electron microscope. 26 endotheliomatous or fibroblastic meningiomas from a previous electron microscopic study were available for comparison.

The purpose of this examination of malignant meningiomas with the electron microscope was to determine ultrastructural criteria of malignancy in these tumors and to establish their relationship to the sarcomas of the meninges.