

Letter to the editors

Leu-M 1 immunoreactivity in papillary carcinomas of the thyroid gland; microcarcinoma, encapsulated, conventional and diffuse sclerosing subtypes

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Sirs:

In 1987, Schröder et al. (1987) published an interesting study demonstrating that Leu-M 1 immunoreactivity correlated significantly with an unfavourable clinical course in thyroid papillary carcinomas. There have been few additional studies concerning this topic published (Schröder et al. 1989) and none of them has investigated the expression of Leu-M 1 in cases of the recently described and more aggressive diffuse sclerosing variant of this type of tumour. (Soares et al. 1989; Schröder et al. 1990)

The aim of this letter is to report the results of a recent study on the presence of Leu-M 1 immunoreactive cells in a series of 33 thyroid papillary carcinomas which included 10 microcarcinomas (MC), 6 encapsulated carcinomas (EC), 7 diffuse sclerosing (DSC) and 10 conventional widely invasive papillary carcinomas (WIC). Immunohistochemical techniques were done with monoclonal antibodies purchased from Becton-Dickinson (California, USA), dilution 1:10, by using the avidin biotin peroxidase method. Statistical analysis was done by using the “U” Mann-Whitney method for comparisons between non-parametric mean samples.

Our results were in agreement with those of Schröder et al. (1990). In fact, regardless of the histological subtype, the number of Leu-M 1 positive cells was lower in tumours not associated with metastatic lymph nodes

than in those that presented metastasis (χ^2 $P < 0.01$). Furthermore, whereas only 3 MC and 3 EC exhibited immunoreactive cells, the vast majority (8 of 10) of WIC and all the 7 cases of DSC showed marked Leu-M 1 positivity (χ^2 $P < 0.01$). Since DSC is an aggressive variant of papillary carcinoma frequently associated with extensive metastatic lymph node involvement, our results support the statement that there is a strong correlation between Leu-M 1 expression in tumour cells and the prognosis of patients with papillary carcinoma of the thyroid.

References

- Schröder S, Böcker W (1989) Prognostic significance of immunohistology in thyroid carcinomas (abstract). *Pathol Res Pract* 185:147–148
- Schröder S, Schwarz W, Rehpenning W, Löning T, Böcker W (1987) Prognostic significance of Leu-M-1 immunostaining in papillary carcinomas of the thyroid gland. *Virchows Arch [A]* 411:435–439
- Schröder S, Bay V, Dunke K, Kremens B, Müller-Gärtner HW, Böcker W, Kastendieck H (1990) Diffuse sclerosing variant of papillary thyroid carcinoma, S-100 protein immunocytochemistry and prognosis. *Virchows Arch [A]* 416:367–371
- Soares J, Limbert E, Sobrinho-Simões M (1989) Diffuse sclerosing variant of papillary thyroid carcinoma. A clinicopathologic study of 10 cases. *Pathol Res Pract* 185:200–206

Reply

Prognostic assessment of diffuse sclerosing variant of papillary thyroid carcinoma

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Sirs:

We would like to thank Drs. Alejo, Peiro, Oliva and Matias-Guiu for their interest in our article. We concur with them that their result of a statistically significant association between increased epithelial Leu-M 1 staining and the presence of metastatic spread of papillary thyroid carcinomas appears to confirm and broaden our observations on the prognostic value of this immunocytochemical approach. We are, however, reluctant to accept the diffuse sclerosing variant of papillary thyroid carcinoma (DSPC) to be, on the whole, an especially aggressive type of neoplasia. Though pulmonary metastases were described in some patients afflicted by DSPC, the clinical course of the majority of cases reported in different series (Carcangiu and Bianchi 1989; Chan et al. 1987; Fujimoto et al. 1990; Hayashi et al. 1990; Mitzukami et al. 1990; Schröder et al. 1990; Soares et al. 1989) seemed to be similar or even better than papillary thyroid carcinoma in general. We have recently speculated about the possibility that S-100 immunostaining might be an effective means of discriminating between the benign and the aggressively behaving examples of DSPC (Schröder 1991) since dense infiltrates of S-100 positive dendritic/Langerhans cells have been shown to be correlated with a good prognosis not only in DSPC (Chan et al. 1987; Schröder et al. 1990), but also among other subtypes of papillary thyroid cancer (Schröder et al. 1988). It would thus be of interest to know the individual behaviour of the 7 DSPC cases investigated by Dr. Alejo and co-workers and to learn whether these tumours differed with regard to the occurrence of S-100 positive dendritic cells.

References

- Carcangiu ML, Bianchi S (1989) Diffuse sclerosing variant of papillary thyroid carcinoma. Clinicopathologic study of 15 cases. *Am J Surg Pathol* 13:1041–1049
- Chan JKC, Tsui MS, Tse CH (1987) Diffuse sclerosing variant of papillary carcinoma of the thyroid: a histological and immunohistochemical study of three cases. *Histopathology* 11:191–201
- Fujimoto Y, Obara T, Ito Y, Kodama T, Aiba M, Yamaguchi K (1990) Diffuse sclerosing variant of papillary carcinoma of the thyroid. Clinical importance, surgical treatment, and follow-up study. *Cancer* 66:2306–2312
- Hayashi Y, Sasao T, Takeichi N, Kuma K, Katayama S (1990) Diffuse sclerosing variant of papillary carcinoma of the thyroid. A histopathological study of four cases. *Acta Pathol Jpn* 40:193–198
- Mitzukami Y, Nonomura A, Michigishi T, Hashimoto T, Noguchi M, Nakamura S, Matsubara F, Kurumaya H (1990) Diffuse sclerosing variant of papillary carcinoma of the thyroid. Report of three cases. *Acta Pathol Jpn* 40:676–682
- Schröder S (1991) Diffuse sclerosing variant of papillary thyroid carcinoma (letter). *Am J Surg Pathol* 15:492–493
- Schröder S, Schwarz W, Rehpenning W, Löning T, Böcker W (1988) Dendritic/Langerhans cells and prognosis in patients with papillary thyroid carcinomas. Immunocytochemical study of 106 thyroid neoplasms correlated to follow-up data. *Am J Clin Pathol* 89:295–300
- Schröder S, Bay V, Dumke K, Kremens B, Müller-Gärtner HW, Böcker W, Kastendieck H (1990) Diffuse sclerosing variant of papillary thyroid carcinoma. S-100 protein immunocytochemistry and prognosis. *Virchows Arch [A]* 416:367–371
- Soares J, Limbert E, Sobrinho-Simoes M (1989) Diffuse sclerosing variant of papillary thyroid carcinoma. A clinicopathologic study of 10 cases. *Pathol Res Pract* 185:200–206