

LETTER TO THE EDITORS

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Expression of Lewis antigens in papillary carcinoma of the thyroid gland

Sirs: We read with interest the paper recently published by Miettinen and Kärkkäinen [4] reporting the immunoreactivity for CD15 and HMBE-1 in normal (fetal and adult) thyroid tissues and in several types of thyroid lesions. Miettinen and Kärkkäinen [4] found constant strong immunoreactivity for CD15 and HMBE-1 in papillary carcinomas and, to a lesser degree, in follicular carcinomas, contrasting with the absence of immunoreactivity for such antibodies in adult thyroid parenchyma and the absence or only focal positivity in benign thyroid lesions. They also observed immunoreactivity for CD15 in the case of fetal thyroid tissue they studied [4].

We were particularly interested in the results obtained with the CD15 antibody, which recognizes an epitope contained within the Lewis x pentasaccharide. Our group has recently reported the immunohistochemical pattern of expression of Lewis x and other type-2 chain carbohydrate antigens, as well as type 1 chain antigens and simple mucin-type antigens, in normal (fetal and adult) thyroid tissues and in several benign and malignant thyroid conditions [2, 3]. Our results concerning Lewis x immunoreactivity (using the SH1 antibody) [2, 3] fit in very well with those of Miettinen and Kärkkäinen [4]. Most of our cases of papillary carcinoma (26 out of 27) and of follicular carcinoma (7 out of 12) were extensively immunoreactive for Lewis x antigen, in contrast to the absence of expression of this antigen in normal adult thyroid parenchyma [2]. We also demonstrated that the expression of Lewis x antigen was not restricted to malignant tumours [2]. Like Miettinen and Kärkkäinen [4], we found immunoreactivity for Lewis x in benign tumours and tumour-like conditions, albeit in a small percentage of cases [2]. The results obtained with other type 2 chain antigens, type 1 chain antigens and simple mucin-type antigens were similar to those observed with Lewis x antigen [2]. Moreover, we found expression of Lewis x in 1 of 9 cases of fetal thyroid [3]. In addition, simple mucin-type Tn antigen, as well as precursor type 2 and Lewis y type 2 chain antigens were also detected in our cases of fetal thyroid tissues [3]. Lewis type 1 chain antigens were not found in fetal thyroid [3].

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The purpose of this letter is twofold. Firstly, to reinforce the conclusions drawn by Miettinen and Kärkkäinen [4] about the putative value of the immunohistochemical detection of Lewis x antigen in surgical pathology. Our data [1] indicate that such immunohistochemical study should also include the evaluation of other type 2 chain antigens, as well as Lewis type 1 chain and simple mucin-type antigens. Even when all these antigens are sought, the results must be cautiously interpreted, as stressed by Miettinen and Kärkkäinen [4], because of the overlap between the carbohydrate profile of benign and malignant conditions. A careful histological examination is still the best approach to a firm diagnosis in a thyroid lesion. Secondly, we confirm that Lewis x expression in thyroid tumours represents an oncofetal expression, as described by Miettinen and Kärkkäinen [4], and extend this conclusion to other type 2 chain antigens and simple mucin-type antigens. This phenomenon is similar to that occurring in carcinomas of the distal colon and rectum [1]. The existence of a parallel between thyroid carcinomas and colorectal carcinomas in the expression of carbohydrate antigens was suggested over a decade ago by Vowden et al. [5]. At variance with simple mucin-type and Lewis type 2 antigens, the presence of Lewis type 1 antigens in thyroid tumours appears to be "de novo" expression [3].

References

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