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INTESTINAL ADENOMATOUS POLYPOSIS: ASSOCIATION WITH BW22 AND WITH SOME IA DETERMINANTS.

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Intestinal adenomatous polyps can be defined as benign neoplastic proliferations but with a malignant potential.

The incidence of malignant transformation is related to the size and growth rate and also to genetic factors, as it is known for familial polyposis and Gardner's syndrome, which are transmitted by a dominant non sex linked autosomal gene (Messinetti 1974). As an attempt to outline a high risk population we studied the association of HLA coded A, B, C antigens and IA determinants with intestinal adenomatous polyps.

Patient and Methods

Fifty - one unrelated patients (36 male, 15 females, all Caucasian), affected by intestinal adenomatous polyposis (41 single, 10 multiple polyps), were typed by 7W. sera against A, B, C and IA specificities and compared with: 1) 730 healthy unrelated Caucasian blood donors that were A, B, C typed by workshop or non-workshop sera; 2) 281 healthy unrelated Caucasian blood donors that were IA-typed by 7W. sera.

Separation and IA typing of B cells has been performed according to Ting et al (1976). T cells contamination of B cells preparations was controlled by anti human T lymphocytes serum (BD Merieux Lyon, France). A, B, C typing has been performed according to Mittal et al. (1968). The degree of association between A, B, C antigens and disease was estimated by Woolf's method and the p values were corrected for the number of antigens tested.

Haplotypes frequency and Δ values have been derived from population data according to Mattiuz et al. (1970).

The activity of the Workshop IA antisera against patients' and controls' B lymphocytes has been compared by chi-square test. The p values were corrected for the total number of antisera.

Results

- 1) Bw22 antigen (13.72%) is 10 times increased (p corrected=0.00005) as compared to healthy controls (1.40%) with relative risk of 11.45.
- 2) Out of 6 increased haplotypes, Bw22, Cw3 displayed the highest significance (p=0.0005) as compared to the controls.

Nevertheless its significance disappeared when the p value was corrected for the number of 1938 haplotypes considered.

- 3) In regard to 7W. IA antisera, 7W033 (p corrected = 0.0076), 7W083 (p corrected = 0.0076), 7W136 (p corrected =0.0078) showed a significantly increased frequency of positive reactions in the diseased group

(Table I). Neither mutual correlation nor relationship with IA cluster was demonstrated for these antisera by 7W. data.

TABLE I
REACTIVITY OF IA ANTISERA AGAINST B LYMPHOCYTES FROM 51 PATIENTS WITH INTESTINAL POLYPOSIS AND 281 CONTROLS

7W. Antisera	Frequency of pos. reactions patients (%)	controls (%)	X ²	p.n (°)
7W033	13	2	16.03	0.0076
7W083	29	10	16.02	0.0076
7W136	10	1	16.0	0.0078

(°) n = 173 number of antisera.

Discussion

Our results suggest that association between Bw22 antigen and intestinal polyposis may be used to select an increased risk population (in our study the relative risk was 11.45). However, this assumption is to be verified, owing to the disagreement of the Bw22 frequency in our controls (1%) with the frequency of the same antigen in European Caucasoids (7.14%, 7th Workshop) and Italian population (5%, Bodmer 1975). Concerning histopathologic patterns, 8 (16%) out of 51 "adenomatous polyps" showed areas of "carcinoma in situ" and 7 (14%) showed a concomitant "adenocarcinoma" in addition to the polyp or polyps. With regard to Bw22, Cw3 haplotype, it is probable that its increased frequency is due to the linkage disequilibrium existing between Bw22 and Cw3.

The increased frequency of positive reactions of IA antisera 7W033, 7W083 and 7W136 may be referred to some markers coded by the B-D chromosomal region and involved in intestinal polyposis.

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