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18. Oligoclonality of serum-antibodies to exocrine pancreas in Crohn's disease and to intestinal goblet cells in ulcerative colitis

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Sera of patients with Crohn's disease contain antibodies to exocrine pancreas (Pabs) in 39 %; concentrations are usually higher than observed in pancreatitis and in other disorders (1). Exclusively patients with ulcerative colitis exhibit antibodies to human intestinal goblet cells (Gabs; 2, 3, 4), which could be detected with fetal intestine in 28 % of the patients (1). To find out whether Pabs and Gabs were of oligoclonal or polyclonal origin, we analyzed their L-chains with the indirect fluorescent antibody technique using frozen sections of human tissues (blood group 0) and fluorescein-labelled antihuman antibodies specific for kappa or lambda chains.

Table: Reactions of Pabs and Gabs with fluorescein-labelled anti-kappa or anti-lambda: Titer 1/3.2 and 1/10: +, 1/32 and 1/100: ++, 1/320 and 1/1000: +++.

			lambda			
			∅	+	++	+++
antibodies to		∅	–	4	1	0
exocrine pancreas	kappa	+	13	15	3	1
(Pabs; 53 sera):		++	2	3	3	1
		+++	0	0	1	6

			lambda			
			∅	+	++	+++
antibodies to		∅	–	0	1	0
intestinal goblet cells	kappa	+	7	15	1	0
(Gabs; 32 sera):		++	1	1	1	0
		+++	2	2	1	0

Kappa and lambda were evenly distributed in 24 of 53 Pabs, in 19 cases kappa overbalanced lambda and in 10 cases lambda overbalanced kappa. Similar data were recorded in Gabs: Kappa was equal to lambda in 16 of 32 cases, kappa predominant in 14 and lambda in 2 cases.

The high frequency of antibodies with only one type of L-chains and the mutual prevalence of kappa and lambda suggest that both Pabs and Gabs are produced by only a small number of plasmacell-clones. Our results accord with the finding of monoclonal lymphocyte-populations in the peripheral blood of 12 out of 20 patients with Crohn's disease or ulcerative colitis (5). Oligoclonality of Pabs and Gabs speaks in favour of autoimmunity, which is directed against exocrine pancreas (secretory components?) in Crohn's disease and against intestinal goblet cells in ulcerative colitis.

1. W. STÖCKER, M. OTTE, S. ULRICH, D. NORMANN, K. STÖCKER, G. JANTSCHEK. 1984. Dtsch. med. Wschr., submitted.
2. O. BROBERGER, P. PERLMANN. 1962. J. exp. Med. **115:** 13.
3. J. V. KLAVINS. 1962. J. Amer. med. Ass. **180:** 759.
4. D. KOFFLER, S. MINKOWITZ, W. ROTHMANN, J. GARLOCK. 1962. Amer. J. Path. **41:** 733.
5. C. H. GINSBURG, K. A. AULI, Z. M. FALCHUK. 1981. Gastroenterology **81:** 1111.

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* (Vol. 168/1–2) First numbers refer to the number of the workshop, second numbers refer to the number of the abstracts within this workshop (A = Addendum, p. 126). FP = Free Poster Session.

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