Histochemical Observations on Mucosubstances in the Pancreatogenic and Cholangiogenic Carcinomas

Akitoshi SUGIMOTO

Department of Pathology, Sumitomo Hospital, Osaka

MATERIALS and METHODS: Mucosubstances were histochemically observed in 31 autopsy cases of pancreas carcinoma and in 23 autopsy cases of cholangiogenic carcinoma (10 intrahepatic bile duct, 9 gallbladder, and 4 extrahepatic bile duct carcinomas). Mucosubstances were stained with "Alcian blue and periodic acid-Schiff" (AB-PAS) reaction, mucicarmin stain, metachromatic reaction with toluidine blue, and other stains on the paraffin sections.

RESULTS: Histochemical findings of mucosubstances are described here according to those of AB-PAS reaction as follows:

Sites	Histological Classification	No.of Cases	AB Reaction					PAS Reaction				
			⋕	⋕	+	±	-	⋕	⋕	+	±	-
Pancreas	Well-Differentiated Adenocarcinoma	18	8	3	1	6	0	4	4	1	9	0
	Poorly-Differentiated Adenocarcinoma	6	0	1	0	3	2	0	0	0	4	2
	Undifferentiated Carcinoma	4	0	0	0	2	2	0	0	0	2	2
	Others (Acinar & Islet Cell types)	3	0	0	0	1	2	0	0	0	3	0
	Total	31	8	4	1	12	6	4	4	1	18	4
Gall-bladder and Bile Ducts	Well-Differentiated Adenocarcinoma	12	8	0	0	4	0	2	1	2	6	0
	Poorly-Differentiated Adenocarcinoma	6	0	1	0	5	0	0	0	0	5	1
	Undifferentiated Carcinoma	3	0	0	0	2	1	0	0	0	2	1
	Others (Adenocantho-carcinoma)	2	0	0	0	1	1	0	0	0	0	2
	Total	23	8	1	0	12	2	2	1	2	13	4

Notes: ⋕ (intense), ⋕ (moderate), + (weak), ± (minimal), - (negative)

SUMMARY: (1) AB-positive acid mucosubstances and PAS-positive neutral mucosubstances show more intense reactions in well-differentiated adenocarcinomas, and minimal or negative in both poorly-differentiated adenocarcinomas and undifferentiated carcinomas. (2) In pancreas carcinomas, more cases of well-differentiated adenocarcinoma tend to be PAS-positive than in cholangiogenic carcinomas. (3) In cholangiogenic carcinomas, more cases of poorly-differentiated adenocarcinoma and undifferentiated carcinoma are minimal AB(±) than in pancreas carcinomas. (4) Synthetic appreciation of histochemical results and morphological findings is necessary to decide the origin of carcinomas in either pancreas or bile duct.