

Brief Report

A case of podoplanin (D2-40) – positive gastrointestinal stromal tumor (GIST)

Nagaoka Central General Hospital, Department of Pathology ; Pathologist

Toshihiko Ikarashi

Background : Podoplanin (D 2-40) was 40 kD O-type sialoglycoprotein, which was expressed in tumors from lymphoendothelium, fetal testis, germ cells, and mesothelium. Gastrointestinal stromal tumor (GIST) was originated from interstitial cells of Cajal (ICCs) and expressed both CD 34 (receptor on endothelium and progenitor cells) and CD 117 (c-KIT, receptor-typed tyrosine kinase). There was no report of podoplanin-positive GIST. We experienced a case of podoplanin-positive GIST and reported.

Case : Male patient of 76 y/o was operated due to the perimural tumor in gastroduodenocolic region, 13 x 13 x 12 cm in diameter, hemorrhage and necrosis with cystic degeneration, fed by gastroduodenal artery. We could not revealed any metastasis. Distal subtotal gastrectomy, pancreatico-duodenectomy, and right-sided colectomy were performed. Histology revealed spindle cell tumor of moderate atypism with 3/10 High Power Field (HPF) of mitotic index (MI), which satisfied MI criteria of malignancy as 2 or over MI. Immunohistochemically tumor cells expressed CD 34, CD 117, and podoplanin (Fig. 1-5). Although Ki-67 labeling index (LI) remained in 5%, less than 10% as one of malignant criteria, this tumor was regarded as ma-

lignancy because of huge size over 5 cm in size, necrosis, hemorrhage, and MI. Malignant GIST was most compatible in spite of no case report of podoplanin-positive GIST.

Conclusion : We consulted to The Japanese Society of Pathology and Dr. Masaharu Fukunaga, Pathologist in Jikei University, diagnosed this tumor as malignant GIST. He explained that huge mass, necrosis, and hemorrhage suggested malignancy and positive immunostaining with CD 34 and CD 117 indicated GIST. He has never experienced podoplanin-positive GIST. Cases of podoplanin-positive GIST should be collected to show its clinical significance.

和文抄録

短 報

ポドプラニン (D2-40) 陽性消化管間質腫瘍の一症例
長岡中央総合病院、病理部；病理医
五十嵐俊彦

76才、男性のポドプラニン (D2-40) 陽性消化管間質腫瘍を経験したので報告した。

Fig.1 Results of immunostain and histochemistry

staining	expression	reagent	result
immunostain	NK/T lymphocyte, neuroendocrine	CD56	—
	macrophage	α-antitrypsin	—
		α-antichymotrypsin	—
	mesenchyme	vimentin	++
	muscle	desmin	—
		HHF-35	—
		α-smooth muscle actin	—
	endothelium, GIST	CD34	+
		CD31	—
	neuroendocrine	neurofilament protein	—
		S-100	—
		glial fibrillary acidic protein	—
		myelin basic protein	—
	epithelium	epithelial membrane antigen	—
		CAM5.2	—
		Ber-EP4	—
	mesothelium	calretinin	—
		D2-40	++
		WT1	—
	proliferation	p53	—
Ki-67		5%, +	
GIST	c-kit	++	
	glycogen, mucin	PAS	—
histochemistry	mucin	Alcian blue	—

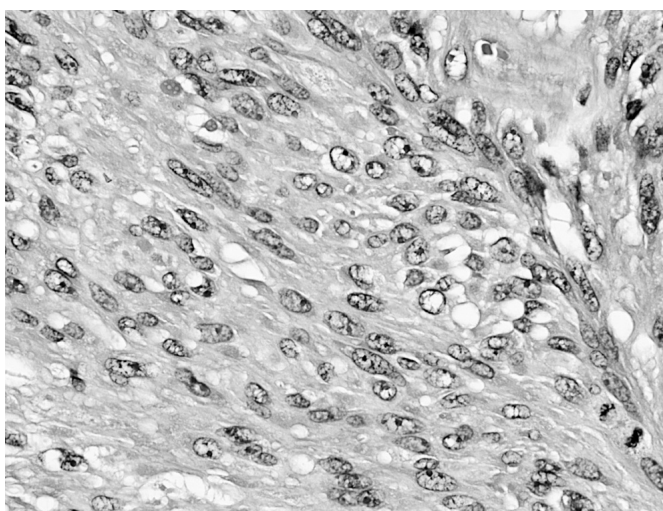


Fig. 2 Spindle cells and mitosis in right lower corner(HE stain)

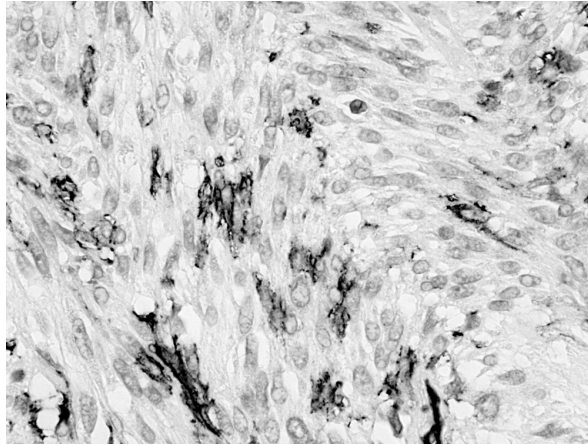


Fig.3 Immunostaining against CD 34

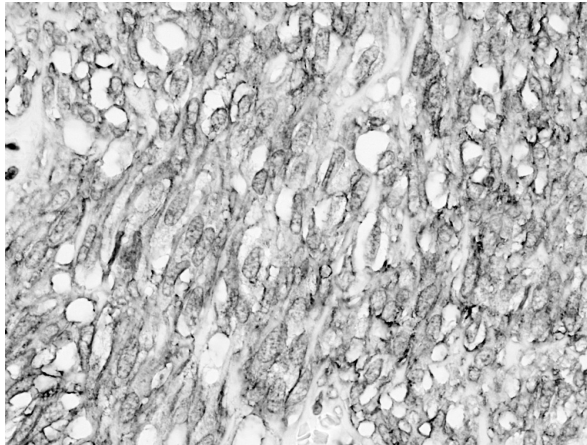


Fig.4 Immunostaining against c-kit



Fig.5 Immunostaining against D 2-40