Original Article

Rare Incidence of *ROS1* Rearrangement in Cholangiocarcinoma

Sun Min Lim, MD[1,2], **Jeong Eun Yoo,** PhD[3], **Kiat Hon Lim,** MD[4], **David Wai Meng Tai,** MD[5],
Byoung Chul Cho, MD, PhD[1], **Young Nyun Park,** MD, PhD[3,6,7]

[1]Division of Medical Oncology, Department of Internal Medicine, Yonsei University College of Medicine, Seoul, [2]Division of Medical Oncology, Department of Internal Medicine, CHA Bundang Medical Center, CHA University, Seongnam, [3]Department of Pathology, Yonsei University College of Medicine, Seoul, Korea, [4]Department of Pathology, Singapore General Hospital, Singapore, [5]Division of Medical Oncology, National Cancer Centre Singapore, Singapore, [6]BK21 PLUS Project for Medical Science, Yonsei University College of Medicine, Seoul, [7]Integrated Genomic Research Center for Metabolic Regulation, Yonsei University College of Medicine, Seoul, Korea

Supplementary Data

Table of Contents

Supplementary Table 1. Comparison of baseline clinicopathological data between Korean and Singaporean cohorts

Variable	All patients (n=261)	Korean cohort (n=216)	Singaporean cohort (n=45)	Cohort p
Age (yr)	65.6 (33-91)	66 (34-91)	61 (33-79)	0.549
Sex				
Male	148 (56)	125 (57)	23 (51)	0.841
Female	113 (44)	91 (43)	22 (49)	
Tumor location				
Intrahepatic	208 (80)	175 (81)	33 (73)	0.719
Extrahepatic	53 (20)	41 (19)	12 (27)	
Tumor size (cm)	4.6 (0.8-15)	3.8 (1.1-12)	5.25 (1.5-15)	0.301
Multiple tumors	51 (19)	36 (16)	15 (33)	
Tumor differentiation				
Well-moderately differentiated	211 (80)	170 (78)	32 (71)	0.697
Poorly differentiated	50 (20)	46 (22)	13 (29)	
Lymph node disease	67/209 (32)	64/190 (33)	3/19 (16)	
CA19-9 (U/mL)	71.9 (0-20,000)	72.6 (0-20,000)	66.8 (0.6-5000)	0.597
Stage				
I	88 (34)	78 (36)	10 (22)	0.468
II	55 (21)	40 (18)	15 (33)	
III	23 (9)	16 (7)	7 (15)	
IV	95 (36)	82 (39)	13 (30)	

Values are presented as median (range) or number (%). CA19-9, carbohydrate antigen 19-9.

Supplementary Table 2. ROS1 protein expression and clinicopathological parameters

Variable	All patients (n=198)	ROS1-protein negative (n=160)	ROS1-protein positive (n=38)	p-value (ROS1-positive vs. ROS1-negative)
Age (yr)	65.6 (34-91)	66 (34-91)	67 (36-82)	
Sex				
Male	109 (55)	88 (55)	21 (55)	0.789
Female	89 (45)	72 (45)	17 (45)	
Tumor location				
Intrahepatic	166 (83)	135 (84)	31 (81)	0.871
Extrahepatic	32 (17)	25 (16)	7 (19)	
Tumor size (cm)	3.9 (0.8-14)	4.1 (1.1-14)	3.2 (0.8-8)	0.025*
Multiple tumors	11 (8)	10 (6)	1 (2)	0.673
Tumor differentiation				
Well-moderately differentiated	160 (81)	125 (78)	35 (92)	0.621
Poorly differentiated	38 (19)	35 (22)	3 (8)	
Lymph node disease	48/188 (25)	37/151 (24)	11/37 (29)	0.612
CA19-9 (U/mL)	2.26 (0.2-563)	2.15 (0.2-563)	2.35 (0.28-376)	0.549
Stage				
I	75 (38)	60 (37)	15 (39)	0.496
II	34 (17)	30 (19)	4 (10)	
III	16 (8)	13 (9)	3 (8)	
IV	73 (37)	57 (35)	16 (43)	

Values are presented as median (range) or number (%). CA19-9, carbohydrate antigen 19-9. *p < 0.05.