

Hepatic Artery Radioembolization (HARE) in the Management of Progressive Metastatic Neuroendocrine Tumors (NETs): A Survival and Biochemical Response Analysis in Geriatric (G) and Young (Y) Populations

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Background: HARE (Y-90 SirSpheres™) in NETs has limited survival statistics, biochemical responses (BR) and factors influencing outcomes are lacking. Objectives: 1) determine if age (G ≥ 60yrs vs Y < 60yr) influences overall survival (OS) & progression free survival (PFS); 2) calculate biochemical response (BR); 3) identify predictive factors.

Methods: A retrospective chart analysis of consecutively treated patients was performed. Demographic, serial pre- & post-Rx (1,6,12,18 mos) Karnofsky Performance Status (KPS), biochemical (5-HIAA, chromogranin A, pancreastatin, neurokinin A (NKA)) & radiographic response data were collected and OS, PFS and BR calculated.

Results: Between 12/2004-8/2010, 73 pts (37 small bowel (SB), 12 pancreas (P), 6 rectum, 18 other) with a median age (range) of 60.4 yrs (39-75) underwent HARE. No differences in OS (p=0.759) & PFS (p=0.767) were seen in G vs Y pts. Primary site was not associated with OS (p=0.373), SB had better PFS (p<0.001). Higher Ki-67 had lower PFS, Hazard ratio (HR)=1,488,691, p=0.002. NKA level at 6 mos was directly proportional to radiographic progression, HR=1.05, p=0.047. Pre-Rx KPS was greater

for alive pts, median KPS=85 vs median KPS=72 for dead pts, p=0.040.

Conclusion: HARE is equally effective for all ages. SB primary has a greater PFS than P. The Ki-67 index is inversely proportional to PFS. KPS correlates with outcomes. Six mos NKA level predicts progression.

	Mean OS (mos)		Mean PFS (mos)		12 MOS % (N)		18 MOS % (N)	
	SB	P	SB	P	SB	P	SB	P
All Tumors	55.18		10.55		97.10 (67)		92.31 (60)	
Age, yrs (N)	SB	P	SB	P	SB	P	SB	P
All (73)	51.35	56.36	13.66	8.00	94.3 (35)	100 (12)	94.1 (34)	90.9 (11)
<60 (39)	51.34	54.73	17.73	8.92	88.2 (17)	100 (8)	87.5 (16)	100 (8)
≥60 (34)	51.35	59.62	9.59	6.46	100 (18)	100 (4)	100 (18)	66.6 (3)