**Suppl 2.** Comparing groups that received immune-checkpoint inhibitor therapy before and after transarterial radioembolization (TARE) in the study population

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| --- | --- | --- | --- | --- | --- |
|  | **All patients (n = 141)** | **No (n = 102)** | **Pre-TARE ICI (n = 5)** | **Post-TARE ICI (n = 34)** | **P- value** |
| **Age of diagnosis, mean (SD)** | 66 (8.2) | 66 (8.5) | 67 (10.0) | 66 (7.4) | 0.994 |
| **Age Group** | 0.761 |
| <65 | 69 (48.9%) | 51 (50.0%) | 3 (60.0%) | 15 (44.1%) |  |
| >=65 | 72 (51.1%) | 51 (50.0%) | 2 (40.0%) | 19 (55.9%) |  |
| **Race** | 0.428 |
| White | 113 (80.1%) | 84 (82.4%) | 3 (60.0%) | 26 (76.5%) |  |
| African American/Black | 22 (15.6%) | 14 (13.7%) | 2 (40.0%) | 6 (17.6%) |  |
| Other | 6 (4.3%) | 4 (3.9%) | 0 (0.0%) | 2 (5.9%) |  |
| **History of Hepatitis C** | 0.574 |
| No | 69 (48.9%) | 47 (46.1%) | 3 (60.0%) | 19 (55.9%) |  |
| Yes | 72 (51.1%) | 55 (53.9%) | 2 (40.0%) | 15 (44.1%) |  |
| **History of Liver Cirrhosis** | 0.190 |
| No | 31 (22.0%) | 19 (18.6%) | 2 (40.0%) | 10 (29.4%) |  |
| Yes | 110 (78.0%) | 83 (81.4%) | 3 (60.0%) | 24 (70.6%) |  |
| **History of Metabolic Dysfunction-associated Steatohepatitis (MASH)** | >0.999 |
| No | 124 (87.9%) | 89 (87.3%) | 5 (100.0%) | 30 (88.2%) |  |
| Yes | 17 (12.1%) | 13 (12.7%) | 0 (0.0%) | 4 (11.8%) |  |
| **History of Diabetes Mellitus** | 0.247 |
| No | 91 (64.5%) | 63 (61.8%) | 5 (100.0%) | 23 (67.6%) |  |
| Yes | 50 (35.5%) | 39 (38.2%) | 0 (0.0%) | 11 (32.4%) |  |
| **Baseline\* Ascites** | 0.743 |
| No | 106 (75.2%) | 77 (75.5%) | 3 (60.0%) | 26 (76.5%) |  |
| Yes | 35 (24.8%) | 25 (24.5%) | 2 (40.0%) | 8 (23.5%) |  |
| **Baseline\* Hepatic encephalopathy** | 0.451 |
| No | 100 (70.9%) | 72 (70.6%) | 5 (100.0%) | 23 (67.6%) |  |
| Yes | 41 (29.1%) | 30 (29.4%) | 0 (0.0%) | 11 (32.4%) |  |
| **BMI, mean (sd)** | 29 (6.5) | 29 (6.6) | 26 (2.6) | 29 (6.7) | 0.737 |
| **Active smoking** | 0.359 |
| No | 89 (63.1%) | 61 (59.8%) | 3 (60.0%) | 25 (73.5%) |  |
| Yes | 52 (36.9%) | 41 (40.2%) | 2 (40.0%) | 9 (26.5%) |  |
| **Active alcohol** | 0.891 |
| No | 91 (64.5%) | 67 (65.7%) | 3 (60.0%) | 21 (61.8%) |  |
| Yes | 50 (35.5%) | 35 (34.3%) | 2 (40.0%) | 13 (38.2%) |  |
| **Line of TARE used** | 0.133 |
| First | 59 (41.8%) | 46 (45.1%) | 0 (0.0%) | 13 (38.2%) |  |
| > 1 | 82 (58.2%) | 56 (54.9%) | 5 (100.0%) | 21 (61.8%) |  |
| **Surgery** | **<0.001** |
| No | 123 (87.2%) | 93 (91.2%) | 1 (20.0%) | 29 (85.3%) |  |
| Yes | 18 (12.8%) | 9 (8.8%) | 4 (80.0%) | 5 (14.7%) |  |
| **Ablation** | 0.272 |
| No | 101 (71.6%) | 75 (73.5%) | 2 (40.0%) | 24 (70.6%) |  |
| Yes | 40 (28.4%) | 27 (26.5%) | 3 (60.0%) | 10 (29.4%) |  |
| **Transarterial chemoembolization** | 0.390 |
| No | 56 (39.7%) | 44 (43.1%) | 1 (20.0%) | 11 (32.4%) |  |
| Yes | 85 (60.3%) | 58 (56.9%) | 4 (80.0%) | 23 (67.6%) |  |
| **Stereotactic Body Radiation Therapy** | **0.020** |
| No | 128 (90.8%) | 96 (94.1%) | 3 (60.0%) | 29 (85.3%) |  |
| Yes | 13 (9.2%) | 6 (5.9%) | 2 (40.0%) | 5 (14.7%) |  |
| **Tyrosine kinase inhibitors** | **0.014** |
| No | 134 (95.0%) | 99 (97.1%) | 3 (60.0%) | 32 (94.1%) |  |
| Yes | 7 (5.0%) | 3 (2.9%) | 2 (40.0%) | 2 (5.9%) |  |
| **Number of Lesions** | >0.999 |
| Single | 65 (46.1%) | 47 (46.1%) | 2 (40.0%) | 16 (47.1%) |  |
| Multiple | 76 (53.9%) | 55 (53.9%) | 3 (60.0%) | 18 (52.9%) |  |
| **Size of the lesions** | 0.605 |
| <=3 cm | 56 (39.7%) | 43 (42.2%) | 2 (40.0%) | 11 (32.4%) |  |
| > 3cm or unmeasurable | 85 (60.3%) | 59 (57.8%) | 3 (60.0%) | 23 (67.6%) |  |
| **History of portal vein tumor thrombus**  | 0.990 |
| None | 107 (75.9%) | 77 (75.5%) | 5 (100.0%) | 25 (73.5%) |  |
| Left portal vein | 4 (2.8%) | 3 (2.9%) | 0 (0.0%) | 1 (2.9%) |  |
| Main portal vein | 14 (9.9%) | 11 (10.8%) | 0 (0.0%) | 3 (8.8%) |  |
| Present but location is unclear | 7 (5.0%) | 5 (4.9%) | 0 (0.0%) | 2 (5.9%) |  |
| Right portal Vein | 9 (6.4%) | 6 (5.9%) | 0 (0.0%) | 3 (8.8%) |  |
| **Baseline\* total bilirubin, mean (sd)** | 1 (0.6) | 1 (0.5) | 2 (1.9) | 1 (0.7) | 0.920 |
| **Baseline\* Albumin, mean (sd)** | 4 (0.6) | 4 (0.6) | 4 (0.7) | 4 (0.7) | 0.720 |
| **Barcelona Clinic Liver Cancer staging at diagnosis**  | 0.583 |
| A | 105 (74.5%) | 77 (75.5%) | 3 (60.0%) | 25 (73.5%) |  |
| B | 34 (24.1%) | 24 (23.5%) | 2 (40.0%) | 8 (23.5%) |  |
| C | 2 (1.4%) | 1 (1.0%) | 0 (0.0%) | 1 (2.9%) |  |
| **Number of TAREs** | 0.793 |
| Single | 122 (86.5%) | 88 (86.3%) | 4 (80.0%) | 30 (88.2%) |  |
| Multiple | 19 (13.5%) | 14 (13.7%) | 1 (20.0%) | 4 (11.8%) |  |
| **T bilirubin post TARE, mean (sd)** | 2 (2.3) | 2 (2.5) | 3 (4.3) | 1 (0.9) | 0.091 |
| **Albumin post TARE, mean (sd)** | 3 (0.6) | 3 (0.6) | 3 (0.6) | 4 (0.5) | **0.007** |
| **Ascites post TARE\*** | 0.395 |
| No | 74 (52.5%) | 50 (49.0%) | 3 (60.0%) | 21 (61.8%) |  |
| Yes | 67 (47.5%) | 52 (51.0%) | 2 (40.0%) | 13 (38.2%) |  |
| **Encephalopathy post TARE\*** | >0.999 |
| No | 93 (66.0%) | 67 (65.7%) | 3 (60.0%) | 23 (67.6%) |  |
| Yes | 48 (34.0%) | 35 (34.3%) | 2 (40.0%) | 11 (32.4%) |  |
| **TKI used before or after TARE** | **<0.001** |
| No | 107 (75.9%) | 85 (83.3%) | 1 (20.0%) | 21 (61.8%) |  |
| Yes | 34 (24.1%) | 17 (16.7%) | 4 (80.0%) | 13 (38.2%) |  |

\*before TARE