

Yttrium-90 Radioembolization for Hepatocellular Carcinoma Prior to Liver Transplantation

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Dear Editor,

I read with interest the recent article by Ettore et al. [1], which reported on the outcomes of 22 patients who underwent liver transplant (LT) for hepatocellular carcinoma (HCC) who also had prior Yttrium-90 microspheres radioembolization (Y90-RE). The authors found that LT was a safe in patients who had been treated with Y90-RE and that Y90-RE was effective both as a bridging and downstaging therapeutic modality. These results seem to support the findings of recent authors that Y90-RE is potentially useful as neoadjuvant treatment prior to LT [2] or liver resection for HCC [3].

However, I have major concerns about the author's conclusions as there are significant flaws in the methodology of this study. The authors reported that three of three (100%) patients were successfully bridged and 15 of 18 (78.9%) patients had successful downstaging. These results are extremely misleading to the casual reader as the denominator used to calculate the percentage of success for bridging or downstaging used is incorrect. The denominator used by the authors only included the 22 patients who subsequently underwent LT. Hence, it is not surprising that the success rates were extremely high. The correct denominator to use would be that of all patients on the LT wait list who underwent attempted bridging or downstaging and an intention to treat analysis should have been performed. Hence the denominator should also include all patients who subsequently failed to undergo LT for various

reasons, such as those who developed disease progression or died on the wait list.

Similarly, the authors also concluded that Y90-RE was safe as none of the 22 patients died after Y90-RE. Again, this is extremely misleading as patients who potentially developed serious complications or even died after Y90-RE would never have undergone LT. These suspicions are reaffirmed in the results section where it was reported briefly that of 41 patients who were treated with Y90-RE with the intent of downstaging, five patients died from liver failure and four died from tumor progression. A further nine patients were awaiting transplant, and it is not known if these tumors were successfully downstaged. Based on the comments above, I strongly hope that the authors will recalculate and report their "actual" bridging and downstaging rates with Y90-RE. They should also report the outcomes of all patients on the wait list who underwent Y90-RE with the intent for downstaging or bridging so that readers can determine its true safety.

References

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