Society of Interventional Oncology

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NCCN Guidelines Panel: Hepatobiliary Cancer

On behalf of the Society of Interventional Oncology, we respectfully request the NCCN Guidelines Panel for Hepatobiliary Cancer review the enclosed recommendations and data regarding locoregional therapy for the treatment of HCC.

**Specific Change 1: Remove superscript aa from panel HCC 4 and ff from panel HCC 5**
**Rationale:** Superscripts aa from panel HCC 4 and ee from panel HCC 5 lead the reader to references regarding ablation and chemoembolization of HCC, respectively. This data and references are included in panel HCC E and MS-22 and is therefore redundant on this panel. The absence of equal superscript representation for all modalities may result in inadvertent bias.

No additional references are submitted to support this change.

**Specific Change 2: Remove superscript bb from panels HCC 4, 5, and 6**
**Rationale:** Superscript bb from panel HCC 4, 5, and 6 leads the reader to a reference regarding safety of external beam radiation therapy in small well selected populations. This reference and data are included in panel HCC E and therefore is redundant on these panels. The absence of equal superscript representation for all modalities may result in inadvertent bias.

No additional references are submitted to support this change.

**Specific Change 3: Change text in algorithm on panels HCC 4, 5, and 6 that currently states "Radiation Therapy" to "External Beam Radiation Therapy"**
**Rationale:** Labeling text in the algorithms on panels HCC 4, 5, and 6 as "External Beam Radiation Therapy" differentiates stereotactic body radiotherapy and other forms of external beam radiation therapy from radioembolization. These two methods of radiation for HCC are fundamentally different in their mechanism of action, outcomes, and level of evidence.

No additional references are submitted to support this change.
**Specific Change 4: Reorganize panel HCC E (Principles of Locoregional Therapy) point IB (Arterially directed therapies) such that each type of arterially directed therapy receives its own paragraph**

**Rationale:** The various forms of arterially directed therapies have differing mechanisms of action. Bland embolization primarily treats tumors via an ischemic effect. Chemoembolization treats tumors via a combined mechanism of cytostatic agent delivery and tissue ischemia. Radioembolization lacks an ischemic component and treats tumors via radiation. Additionally, these therapies have differing applications, side effect profiles, and outcomes. Therefore, bland embolization, chemoembolization, and radioembolization deserve separate subheadings to delineate these differences to more accurately assist in therapeutic decisions.

**Existing references in NCCN guidelines for transarterial therapies are sufficient to support this change.**

**Specific Change 5: Radioembolization should be performed in segmental fashion (2 hepatic segments or less) when feasible.**

**Dosing: Dosing for segmental radioembolization is generally ">190" Gy MIRD depending on underlying liver function. Other activity administration models can be used when clinically indicated.**

**Rationale:** The available evidence for segmental radioembolization of HCC which can be confined to expendable volumes of liver, typically 2 hepatic segments or less in patients with preserved liver function, has shown both increased safety and efficacy when compared to less conformal delivery.

The following articles are submitted in support of this proposed change:


1. Lewandowski, R et al. "Radiation Segmentectomy: Potential Curative Therapy for Early Hepatocellular Carcinoma." Radiology. 2018 Jun;287(3):1050-1058. PMID: 29688155
2. Padia, S et al. "Segmental Yttrium-90 Radioembolization versus Segmental Chemoembolization for Localized Hepatocellular Carcinoma: Results of a Single-Center, Retrospective, Propensity Score-Matched Study." J Vasc Interv Radiol. 2017 Jun;28(6):777-785. PMID: 28365172
3. Vouche, M et al. Unresectable solitary hepatocellular carcinoma not amenable to radiofrequency ablation: multicenter radiology-pathology correlation and survival of radiation segmentectomy. Hepatology. 2014 Jul;60(1):192-201. PMID: 24691943


Thank you for your consideration of these recommendations.

Sincerely,


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