LC BeadM1® used for the treatment of a 4cm hepatocellular carcinoma

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Presentation

- A 75-year-old woman with a past medical history of Hepatitis C related cirrhosis was referred to interventional radiology after discovery of a 4 cm mass in hepatic segment 8. Evaluation with contrast-enhanced MRI demonstrated imaging characteristics consistent with hepatocellular carcinoma (image 1). Multidisciplinary tumor board concluded that embolization was the most appropriate treatment modality for this non-transplant candidate.

Treatment

- The right common femoral artery was accessed with a vascular needle under ultrasound guidance. A 5 French Cobra 2 guiding catheter was advanced through a 5 French sheath and was used to select the superior mesenteric artery and celiac axis. Arterial and venous-phase imaging demonstrated a 4cm region of intense arterial-phase enhancement within segment 8 corresponding to the known hepatocellular carcinoma (image 2). A microcatheter was advanced in to the replaced right hepatic artery and tumor arterial mapping was performed. Subsequently, the feeding arteries to the segment 8 tumor were sub-selected for embolization (images 3, 4). A total of 2ml of LC BeadM1® (70-150 micron) in 15ml of non-ionic contrast was delivered to the tumor. This was followed by 2ml of LC Bead® 100-300 micron size beads until adequate stasis of flow was achieved. Post-embolization angiogram confirmed successful tumor embolization (image 5). Following the procedure the patient was admitted for overnight observation and scheduled for follow-up abdominal CT imaging in 4 weeks.
Outcome

• Post-treatment tri-phasic abdominal CT showed no evidence of residual tumor enhancement or significant non-target embolization (image 6).

Conclusion

• In this patient, the combination of 70-150 micron LC Bead\textsuperscript{M1} and 100-300 micron LC Bead\textsuperscript{R} demonstrated excellent distal embolization as evidenced by resolution of tumor blush on post-embolization angiogram. Additionally, the combination of bead sizes used in sequential fashion allowed for more distal embolization and a more complete embolization than our prior experiences with isolated use of 100-300 micron LC Bead\textsuperscript{R}.

Ordering Information:

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Label Color and Size</th>
<th>Volume of Beads</th>
<th>Product Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC Bead\textsuperscript{M1}®</td>
<td>70-150µm</td>
<td>2ml</td>
<td>VE020GS</td>
</tr>
</tbody>
</table>

For more information or to order, please contact:
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LC Bead\textsuperscript{R} and LC Bead\textsuperscript{M1}® Indications:
LC Bead\textsuperscript{R} and LC Bead\textsuperscript{M1}® are intended to be used for the embolization of hypervascular tumors and arteriovenous malformations (AVMs).

Cautions:
• Do not use if the vial or packaging appear damaged
• Sterile and single use product. Do not reuse
• Select the size and quantity of LC Bead\textsuperscript{R} or LC Bead\textsuperscript{M1}® microspheres appropriate for the pathology to be treated
• Ensure that LC Bead\textsuperscript{M1}® is an appropriate size for the intended vasculature
• Monitor patients carefully for signs of non-target embolization such as hypoxia or CNS changes
• Consider up-sizing LC Bead\textsuperscript{M1}® if angiographic evidence of embolization does not appear quickly during delivery

• Embolization with LC Bead\textsuperscript{R} and LC Bead\textsuperscript{M1}® microspheres should only be performed by physicians who have received appropriate interventional occlusion training in the region intended to be embolized

For instructions for use, please refer to www.lcbead.com/ifu and www.lcbeadm1.com/ifu

Potential Complications:
1. Undesirable reflux or passage of LC Bead\textsuperscript{R} or LC Bead\textsuperscript{M1}® into normal arteries adjacent to the targeted lesion or through the lesion into other arteries or arterial beds, such as the internal carotid artery, pulmonary, or coronary circulations
2. Non-target embolization
3. Pulmonary embolization
4. Ischemia at an undesirable location
5. Capillary bed saturation and tissue damage
6. Ischemic stroke or ischemic infarction
7. Visual or lesion rupture and hemorrhage
8. Neurological deficits including cranial nerve palsy
9. Vasospasm
10. Death
11. Recanalization
12. Foreign body reactions necessitating medical intervention
13. Infection necessitating medical intervention
14. Clot formation at the tip of the catheter and subsequent dislodgement

Caution:
Federal (USA) law restricts this device to sale by or on order of a physician.