# Case Scenarios

# Case Scenario 1

83 Year old white male presented complaining of abdominal pain gradually worsening for the past 2 months. Patient is a former smoker.

**PE**: Soft, non-tender; bowel sounds normal; no masses, no organomegaly.

**8/2/16 CT Abdomen and Pelvis:** Subtle hypodense liver mass measuring 6.5 cm, new since 2005 CT concerning for malignancy. Characterization is otherwise limited due to no IV contrast. Ultrasound may provide further interpretation. Lesion is thought to be amenable to percutaneous biopsy if necessary. Mild splenomegaly. No upper abdominal adenopathy; no pelvic adenopathy

**8/5/16 Abdomen U/S:** There is a heterogeneously hypoechoic mass in the posterior segment of the right lobe of liver. It is 6.4 x 6.4 cm. It extends to the superior capsule of the liver. Blood flow within the mass seen on color Doppler. The mass also abuts the right hepatic vein. There is normal flow in the right hepatic vein on Doppler evaluation. No other hepatic masses are seen. Large hepatic mass consistent with malignancy. This could represent either metastatic disease or primary hepatic malignancy.

**8/5/16 AFP:** 2 ng/ml N (Normal Range 0 – 15 ng/ml)

**8/5/16 Creatinine:** 1.72 mg/dl H (Normal Range 0.7-1.2 mg/dl)

**8/5/16 INR:** 1.11 N (Normal Range 0.9-1.3)

**8/16/16 Liver Mass, Core Biopsy:** Histology and Immunohistochemistry consistent With Hepatocellular Carcinoma, Grade 2

**10/14/16 Radiation:** Y-90 Radioembolization

**Case Scenario 1 Worksheet**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| * **What is the primary site?**   **C22.0 Liver**   * **What is the histology?**   **8170/3 Hepatocellular Carcinoma** | | | * **What is the grade/differentiation?**   **2 - Moderately Differentiated** | | |
| **Stage/ Prognostic Factors** | | | | | |
| Summary Stage | 1 – Localized | | Tumor Size Summary | 065 | |
| TNM Clin T | cT1 (no vascular invasion per scans) | | TNM Path T | pT1 | |
| TNM Clin N | cN0 (no statement of clinical involve LN) | | TNM Path N | pNX | |
| TNM Clin M | cM0 (negative PE – no mention) | | TNM Path M | cM0 | |
| TNM Clin Stage | 1 | | TNM Path Stage | 99 | |
| TNM Clin Descriptor | 0 | | TNM Path Descriptor | 0 | |
| TNM Clin Staged By | 20 | | TNM Path Staged By | 00 | |
| CS SSF 1 | 020 | |  |  | |
| CS SSF 2 | 999 | | Regional Nodes Positive | 98 | |
| CS SSF 3 | 001 | | Regional Nodes Examined | 00 | |
| CS SSF 4 | 017 | | Mets at Dx - Bone | 0 | |
| CS SSF 5 | 010 | | Mets at Dx - Brain | 0 | |
| CS SSF 6 | 999 | | Mets at Dx - Liver | 0 | |
| CS SSF 7 | 999 | | Mets at Dx - Lung | 0 | |
| CS SSF 8 | 011 | | Mets at Dx - Other | 0 | |
|  |  | | Mets at Dx – Distant LN | 0 | |
|  |  | |  |  | |
| **Treatment** | | | | | |
| Diagnostic Staging Procedure | | 02 |  | |  |
| **Surgery Codes** | |  | **Radiation Codes** | |  |
| Surgical Procedure of Primary Site | | 00 | Radiation Treatment Volume | | 14 |
| Scope of Regional Lymph Node Surgery | | 00 | Regional Treatment Modality | | 53 |
| Surgical Procedure/ Other Site | | 0 | Regional Dose | | 88888 |
| **Systemic Therapy Codes** | |  | Boost Treatment Modality | | 00 |
| Chemotherapy | | 00 | Boost Dose | | 00000 |
| Hormone Therapy | | 00 | Number of Treatments to Volume | | 001 |
| Immunotherapy | | 00 | Reason No Radiation | | 0 |
| Hematologic Transplant/Endocrine Procedure | | 00 | Radiation/Surgery Sequence | | 0 |
| Systemic/Surgery Sequence | | 0 |  | |  |

# Case Scenario 2

58 year old white male. Patient with no prior history of cancer. Former smoker of 10 pack years, quit smoking in 2012. Patient was diagnosed at outside facility and came to this facility for surgery.

**2/12/16 CT Abdomen and Pelvis:** Revealed large exophytic mass in the right lobe of the liver. Also noted possible 2 additional hypervascular nodules in the liver possibly representing multifocal disease. Findings consistent with Hepatocellular Carcinoma.

**2/12/16 CT** **Chest:** negative for mets.

**2/29/16 CT Abdomen with and without contrast:**

1. There are 2 separate hepatic masses consistent with hepatocellular carcinoma.
   * The dominant mass is exophytic from segments 5 and 6 end is inseparable from the hepatic flexure of the colon. Material projecting medially from the lower aspect of this mass is likely adherent hematoma rather than part of the mass.
   * A second lesion located more superiorly and posteriorly in segment 6 is probably more well differentiated, but is still suspicious for a second focus of hepatocellular carcinoma.
2. No evidence of extrahepatic metastatic disease.
3. Right adrenal myelolipoma.
4. Small renal cysts.
5. Small periumbilical hernia containing fat.

**2/29/16 AFP:** 7960 ng/ml H (Normal Range 0 – 15 ng/ml)

**2/29/16 Creatinine:** 1.0 mg/dl N (Normal Range 0.7-1.2 mg/dl)

**2/29/16 Total Bilirubin:** 1.3 H (Normal Range 0.7 to 1.2 mg/dl)

**2/29/16 INR:** 1.0 (Normal Range 0.9 – 1.3)

**3/25/16 Operative procedures**

* Diagnostic laparoscopy.
* Exploratory laparotomy.
* Radical right lobectomy and en bloc resection of right colon
* Intraoperative ultrasound of the liver.
* Microwave ablation of segment 6 lesion, 3 centimeters in size.
* Intraoperative ablation assessment.

**3/25/16 Pathology**

* SPECIMEN: RIGHT LOBE LIVER AND RIGHT COLON, APPENDIX, AND TERMINAL ILEUM.
* PROCEDURE: RADICAL EN BLOC RESECTION.
* TUMOR HISTOLOGIC TYPE: HEPATOCELLULAR CARCINOMA.
* HISTOLOGIC GRADE: GRADE 4 OF 4.
* TUMOR SIZE: 15.0 CM MAXIMUM DIAMETER ORIGINATING IN SEGMENTS 5 AND 6
* TUMOR FOCALITY: UNIFOCAL.
* TUMOR EXTENSION:
  + TUMOR PERFORATES VISCERAL PERITONEUM.
  + TUMOR INVADES INTO SUBSEROSA OF ATTACHED SEGMENT OF RIGHT COLON.
    - TUMOR DOES NOT INVADE INTO MUSCULARIS PROPRIA, SUBMUCOSA, OR MUCOSA OF RIGHT COLON.
  + MARGINS: LIVER PARENCHYMAL, TERMINAL ILEAL, AND COLONIC MARGINS OF RESECTION ARE FREE OF TUMOR (TUMOR IS 1.0 CM FROM THE INKED LIVER PARENCHYMAL MARGIN).
  + LYMPH-VASCULAR INVASION:
    - MACROSCOPIC VENOUS (LARGE VESSEL) INVASION (V): NOT IDENTIFIED.
    - MICROSCOPIC (SMALL VESSEL) INVASION (L): NOT IDENTIFIED.
    - PERINEURAL INVASION: NOT IDENTIFIED.
    - NON-NEOPLASTIC LIVER: MILD LYMPHOCYTIC PIECEMEAL NECROSIS (GRADE 1)  
      AND CIRRHOSIS (STAGE 4), COMPATIBLE WITH KNOWN HISTORY OF HEPATITIS C.
* ADDITIONAL PATHOLOGIC FINDINGS:
  + UNREMARKABLE TERMINAL ILEUM.
  + UNREMARKABLE APPENDIX.
  + LYMPH NODES: EIGHTEEN (18) BENIGN PERICOLONIC LYMPH NODES, NEGASTIVE FOR METASTATIC CARCINOMA.

**Case Scenario 2 Worksheet**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| * **What is the primary site?**   **C22.0 Liver**   * **What is the histology?**   **8170/3 Hepatocellular Carcinoma** | | | * **What is the grade/differentiation?**   **4 - Undifferentiated** | | |
| **Stage/ Prognostic Factors** | | | | | |
| Summary Stage | 7-Distant | | Tumor Size Summary | 150 | |
| TNM Clin T | cT4 – invasion of adjacent organ | | TNM Path T | pT4 | |
| TNM Clin N | cN0 (no statement of clinical involve LN) | | TNM Path N | pNX | |
| TNM Clin M | cM0 (negative PE – no mention) | | TNM Path M | cM0 | |
| TNM Clin Stage | 3C | | TNM Path Stage | 99 | |
| TNM Clin Descriptor | 3 | | TNM Path Descriptor | 3 | |
| TNM Clin Staged By | 20 | | TNM Path Staged By | 20 | |
| CS SSF 1 | 010 | |  |  | |
| CS SSF 2 | 001 | | Regional Nodes Positive | 98 | |
| CS SSF 3 | 170 | | Regional Nodes Examined | 00 | |
| CS SSF 4 | 010 | | Mets at Dx - Bone | 0 | |
| CS SSF 5 | 010 | | Mets at Dx - Brain | 0 | |
| CS SSF 6 | 013 | | Mets at Dx - Liver | 0 | |
| CS SSF 7 | 010 | | Mets at Dx - Lung | 0 | |
| CS SSF 8 | 010 | | Mets at Dx - Other | 0 | |
|  |  | | Mets at Dx – Distant LN | 0 | |
|  |  | |  |  | |
| **Treatment** | | | | | |
| Diagnostic Staging Procedure | | 00 |  | |  |
| **Surgery Codes** | |  | **Radiation Codes** | |  |
| Surgical Procedure of Primary Site | | 59 | Radiation Treatment Volume | | 00 |
| Scope of Regional Lymph Node Surgery | | 0 | Regional Treatment Modality | | 00 |
| Surgical Procedure/ Other Site | | 2 | Regional Dose | | 00000 |
| **Systemic Therapy Codes** | |  | Boost Treatment Modality | | 00 |
| Chemotherapy | | 00 | Boost Dose | | 00000 |
| Hormone Therapy | | 00 | Number of Treatments to Volume | | 000 |
| Immunotherapy | | 00 | Reason No Radiation | | 0 |
| Hematologic Transplant/Endocrine Procedure | | 00 | Radiation/Surgery Sequence | | 0 |
| Systemic/Surgery Sequence | | 0 |  | |  |