**Case Scenario 1**

**Discharge Summary**

A 31-year-old Brazilian male presented with a 6 month history of right-sided scrotal swelling. Backache was present for 2 months and a history of right epididymitis was present for 8 months.

The patient presented with the following elevated tumor markers: Alpha-fetoprotein: 2628 ng/ml (normal range 0-15 ng/ml), beta-hCG: 696 IU/ml (normal range 2-5 IU/ml), LDH: 936 U/L (normal range 300-600 U/L).

Ultrasound of the scrotum revealed a large descended right testis swelling characterized by scarce cystic elements and calcifications. CT scan of the abdomen was negative. Both Chest x-Ray and CT scan of the chest were negative as well. The patient underwent right-sided radical orchiectomy on August 5, 2014.

**Pathology Report**

Specimen: Right testicle

Gross Description:

The specimen is received in a formalin-filled container labeled with the patient's name. The specimen is designated as "right testicle" and consists of a testicle with attached spermatic cord, which together weighs 65 gm. The spermatic cord measures 8.0 cm in length by 2.0 cm in diameter. The tunica vaginalis is baggy and has a stringy appearance. The outer portion of the testicle measures 7.0 x 3.5 x 3.5 cm. Prior to dissection, the entire outer surface is marked with black ink. The specimen is then bisected. The tunica vaginalis is noted to contain a small amount of straw-colored fluid. The testicle measures 4.3 x 3.0 x 3.0 cm. The testicular parenchyma showed a single tumor. The tumor is firm, yellow-pink-tan with areas of focal hemorrhage and measures 2.7 x 1.7 x 1.2 cm. The tumor invades through the tunica albuginea and into the tunica vaginalis, but does not appear to extend to the spermatic cord. The epididymis measures 3.0 cm in length by up to 1.0 cm in diameter. The remaining testicular parenchyma appears normal.

**Final Diagnosis:**

Right testicle radical orchiectomy: A single tumor measuring 2.7 cm composed of 80% embryonal carcinoma and 20% seminoma. Definite lymphovascular invasion is not identified. The background testicular parenchyma shows intratubular germ cell neoplasia.

**Oncology Consult**

Three weeks post orchiectomy serum tests showed a normalized AFP, and Beta-hCG, but the LDH continues to be elevated (920). He began a chemotherapy regimen of BEP (Bleomycin, Etoposide, and Cisplatin) on 9/28/14. Serum markers normalized upon completion of the 1st round of chemotherapy. After the 2nd cycle LDH became elevated again. The patient the patient had a CT scan of the chest and abdomen that revealed a retroperitoneal mass and multiple lung metastases.

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| **Case Scenario 1 Worksheet** | | | | | | | |
| **Primary Site C62.1** | **Morphology 9070/3** | | | | | **Grade 9** | |
| **Stage/ Prognostic Factors** | | | | | | | |
| CS Tumor Size | | 027 | | | CS SSF 9 | 010 | |
| CS Extension | | 200 | | | CS SSF 10 | 020 | |
| CS Tumor Size/Ext Eval | | 3 | | | CS SSF 11 | 988 | |
| CS Lymph Nodes | | 000 | | | CS SSF 12 | 988 | |
| CS Lymph Nodes Eval | | 0 | | | CS SSF 13 | 000 | |
| Regional Nodes Positive | | 98 | | | CS SSF 14 | 988 | |
| Regional Nodes Examined | | 00 | | | CS SSF 15 | 000 | |
| CS Mets at Dx | | 00 | | | CS SSF 16 | 020 | |
| CS Mets Eval | | 0 | | | CS SSF 17 | 988 | |
| CS SSF 1 | | 988 | | | CS SSF 18 | 988 | |
| CS SSF 2 | | 988 | | | CS SSF 19 | 988 | |
| CS SSF 3 | | 988 | | | CS SSF 20 | 988 | |
| CS SSF 4 | | 010 | | | CS SSF 21 | 988 | |
| CS SSF 5 | | 000 | | | CS SSF 22 | 988 | |
| CS SSF 6 | | 120 | | | CS SSF 23 | 988 | |
| CS SSF 7 | | 020 | | | CS SSF 24 | 988 | |
| CS SSF 8 | | 060 | | | CS SSF 25 | 988 | |
| Summary Stage | | 1-Localized | | |  |  | |
| Clinical AJCC TNM Stage | | TX N0 M0  Stage 99 | | | Pathologic AJCC TNM Stage | T2 NX M S2 Stage 99 | |
| **Treatment** | | | | | | | |
| Diagnostic Staging Procedure | | | 00 |  | | |  |
| **Surgery Codes** | | |  | **Radiation Codes** | | |  |
| Surgical Procedure of Primary Site | | | 40 | Radiation Treatment Volume | | | 00 |
| Scope of Regional Lymph Node Surgery | | | 00 | Regional Treatment Modality | | | 00 |
| Surgical Procedure/ Other Site | | | 0 | Regional Dose | | | 00000 |
| **Systemic Therapy Codes** | | |  | Boost Treatment Modality | | | 00 |
| Chemotherapy | | | 03 | Boost Dose | | | 00000 |
| Hormone Therapy | | | 00 | Number of Treatments to Volume | | | 000 |
| Immunotherapy | | | 00 | Reason No Radiation | | | 1 |
| Hematologic Transplant/Endocrine Procedure | | | 00 | Radiation/Surgery Sequence | | | 0 |
| Systemic/Surgery Sequence | | | 3 |  | | |  |

**Case Scenario 2**

**Discharge Summary**

A 26-year-old male presented with a 6 month history of left-sided scrotal swelling. Backache was present for 2 months and a history of left epididymitis was present for 8 months. The patient presented with the following tumor markers: Alpha-Fetoprotein: 2 ng/ml (normal range 0-15 ng/ml), beta-hCG: 149 IU/ml (normal range 2-5 IU/ml), LDH: 875 U/L (normal range 300-600 U/L). Ultrasound of the scrotum revealed large descended left testis swelling characterized by scarce cystic elements and calcifications. CT scan of the abdomen showed nodular metastasis involving the interaortocaval, precaval, and left para-aortic lymph nodes. The largest lymph node measured 3.2 cm. Both chest x-ray and CT scan of the chest showed no lymphadenopathy. The patient underwent left-sided radical orchiectomy on November 12, 2014.

**Pathology Report**

Specimen: Left testicle

Gross Description:

The specimen is received in a formalin-filled container labeled with the patient's name. The specimen is designated as "left testicle" and consists of a testicle with attached spermatic cord, which together weighs 65 gm. The spermatic cord measures 8.0 cm in length by 2.0 cm in diameter. The tunica vaginalis is baggy and has a stringy appearance. The outer portion of the testicle measures 7.0 x 3.5 x 3.5 cm. Prior to dissection, the entire outer surface is marked with black ink. The specimen is then bisected. The tunica vaginalis is noted to contain a small amount of straw-colored fluid. The testicle measures 4.3 x 3.0 x 3.0 cm. The testicular parenchyma displays a tumor. The tumor measures 3.2 x 2.1 x 2.0 cm and is soft and pink. The tumor extends to, but not through the tunica albuginea. The tumor does not appear to extend to the spermatic cord. The epididymis measures 3.0 cm in length by up to 1.0 cm in diameter. The remaining testicular parenchyma appears normal.

**Final Diagnosis:**

Left testicle, radical orchiectomy: Single nodule measuring 3.2 cm. The tumor nodule is composed of seminoma. Definite lymphovascular invasion is not identified. The nodule is confined to the testis without invasion into the epididymis or through the tunica albuginea. The spermatic cord margin is free of malignancy. The background testicular parenchyma shows intratubular germ cell neoplasia.

**Radiation Oncology Consult**

The patient presented post orchiectomy with normal AFP and B-hCG. However, the LDH continues to be elevated at 720. Using IMRT the patient received 20 Gy to the para-aortic and left iliac lymph nodes (modified dog leg). He had a daily dosage of 2Gy over 10 days followed by a boost of 16 Gy (2Gy over 8 days). Following completion of radiation the patient had normalized serum levels.

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| **Case Scenario 2 Worksheet** | | | | | | | |
| **Primary Site C62.1** | **Morphology 9061/3** | | | | | **Grade 9** | |
| **Stage/ Prognostic Factors** | | | | | | | |
| CS Tumor Size | | 032 | | | CS SSF 9 | 010 | |
| CS Extension | | 160 | | | CS SSF 10 | 010 | |
| CS Tumor Size/Ext Eval | | 3 | | | CS SSF 11 | 988 | |
| CS Lymph Nodes | | 200 | | | CS SSF 12 | 988 | |
| CS Lymph Nodes Eval | | 0 | | | CS SSF 13 | 000 | |
| Regional Nodes Positive | | 98 | | | CS SSF 14 | 988 | |
| Regional Nodes Examined | | 00 | | | CS SSF 15 | 000 | |
| CS Mets at Dx | | 00 | | | CS SSF 16 | 010 | |
| CS Mets Eval | | 0 | | | CS SSF 17 | 988 | |
| CS SSF 1 | | 988 | | | CS SSF 18 | 988 | |
| CS SSF 2 | | 988 | | | CS SSF 19 | 988 | |
| CS SSF 3 | | 988 | | | CS SSF 20 | 988 | |
| CS SSF 4 | | 010 | | | CS SSF 21 | 988 | |
| CS SSF 5 | | 020 | | | CS SSF 22 | 988 | |
| CS SSF 6 | | 001 | | | CS SSF 23 | 988 | |
| CS SSF 7 | | 000 | | | CS SSF 24 | 988 | |
| CS SSF 8 | | 010 | | | CS SSF 25 | 988 | |
| Summary Stage | | 3-Regional node mets | | |  |  | |
| Clinical AJCC TNM Stage | | TX N2 M0 S0  Stage IIB | | | Pathologic AJCC TNM Stage | pT1 NX M S0  Stage 99 | |
| **Treatment** | | | | | | | |
| Diagnostic Staging Procedure | | | 00 |  | | |  |
| **Surgery Codes** | | |  | **Radiation Codes** | | |  |
| Surgical Procedure of Primary Site | | | 40 | Radiation Treatment Volume | | | 23 |
| Scope of Regional Lymph Node Surgery | | | 00 | Regional Treatment Modality | | | 31 |
| Surgical Procedure/ Other Site | | | 0 | Regional Dose | | | 02000 |
| **Systemic Therapy Codes** | | |  | Boost Treatment Modality | | | 31 |
| Chemotherapy | | | 00 | Boost Dose | | | 01600 |
| Hormone Therapy | | | 00 | Number of Treatments to Volume | | | 036 |
| Immunotherapy | | | 00 | Reason No Radiation | | | 0 |
| Hematologic Transplant/Endocrine Procedure | | | 00 | Radiation/Surgery Sequence | | | 3 |
| Systemic/Surgery Sequence | | | 0 |  | | |  |

**Case Scenario 3**

8/4/14 History & Physical: Patient is a 30-year-old white male with swelling in the right testicle and inguinal area for about a month. Surgery and appointment with oncologist scheduled.

7/24/14 Testicular ultra-sound: 3 cm mass of the right testicle; normal left testicle.

7/24/14 Pelvic ultrasound: 2.5 cm malignant adenopathy of right interaortocaval node; 2 cm right pelvic node mass with malignant adenopathy.

8/4/14 Chest x-ray: Normal.

8/18/14 Right inguinal radical orchiectomy pathology: 3 cm right testicular tumor, mixed embryonal carcinoma and teratoma with lymph-vascular invasion, involving the tunica vaginalis and para-testicular soft tissues. Margins of resection are clear. There is no involvement of the spermatic cord.

Lab Work

8/4/14 AFP: 850 ng/ml, elevated

8/4/14 hCG: 3,500 mIU/ml, elevated

8/4/14 LDH: 200; 172 is upper limit of normal

8/20/14 AFP: 10 ng/ml, within normal limits

8/20/14 hCG: 20 mIU/nl, within normal limits

8/20/14 LDH: 100 U/L, within normal limits

9/18/14 Oncology: Patient started chemotherapy today with the first of 3 cycles of BEP.

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| **Case Scenario 3 Worksheet** | | | | | | | |
| **Primary Site C62.1** | **Morphology 9081/3** | | | | | **Grade 9** | |
| **Stage/ Prognostic Factors** | | | | | | | |
| CS Tumor Size | | 030 | | | CS SSF 9 | 010 | |
| CS Extension | | 200 | | | CS SSF 10 | 010 | |
| CS Tumor Size/Ext Eval | | 3 | | | CS SSF 11 | 988 | |
| CS Lymph Nodes | | 200 | | | CS SSF 12 | 988 | |
| CS Lymph Nodes Eval | | 0 | | | CS SSF 13 | 000 | |
| Regional Nodes Positive | | 98 | | | CS SSF 14 | 988 | |
| Regional Nodes Examined | | 00 | | | CS SSF 15 | 000 | |
| CS Mets at Dx | | 11 | | | CS SSF 16 | 000 | |
| CS Mets Eval | | 0 | | | CS SSF 17 | 988 | |
| CS SSF 1 | | 988 | | | CS SSF 18 | 988 | |
| CS SSF 2 | | 988 | | | CS SSF 19 | 988 | |
| CS SSF 3 | | 988 | | | CS SSF 20 | 988 | |
| CS SSF 4 | | 010 | | | CS SSF 21 | 988 | |
| CS SSF 5 | | 020 | | | CS SSF 22 | 988 | |
| CS SSF 6 | | 080 | | | CS SSF 23 | 988 | |
| CS SSF 7 | | 010 | | | CS SSF 24 | 988 | |
| CS SSF 8 | | 130 | | | CS SSF 25 | 988 | |
| Summary Stage | | 3-Regional lymph nodes involved only | | |  |  | |
| Clinical AJCC TNM Stage | | TX N2 M1a S1  Stage IIIA | | | Pathologic AJCC TNM Stage | T2 NX M S0  Stage 99 | |
| **Treatment** | | | | | | | |
| Diagnostic Staging Procedure | | | 00 |  | | |  |
| **Surgery Codes** | | |  | **Radiation Codes** | | |  |
| Surgical Procedure of Primary Site | | | 40 | Radiation Treatment Volume | | | 00 |
| Scope of Regional Lymph Node Surgery | | | 0 | Regional Treatment Modality | | | 00 |
| Surgical Procedure/ Other Site | | | 0 | Regional Dose | | | 00000 |
| **Systemic Therapy Codes** | | |  | Boost Treatment Modality | | | 00 |
| Chemotherapy | | | 03 | Boost Dose | | | 00000 |
| Hormone Therapy | | | 00 | Number of Treatments to Volume | | | 000 |
| Immunotherapy | | | 00 | Reason No Radiation | | | 1 |
| Hematologic Transplant/Endocrine Procedure | | | 00 | Radiation/Surgery Sequence | | | 0 |
| Systemic/Surgery Sequence | | | 3 |  | | |  |