Intra-Abdominal Lymph Node Metastases in Low-Third Esophagus Cancer: a Case of Incidental pM1a Disease after Radical Surgery

Case Number: RT2008 - 10(M)

Potential Audiences: Intent Doctor, Oncology Special Nurse, Resident Doctor

Purpose: To present and discuss a case of incidental pM1a, intra-abdominal lymph node metastases, low-third esophagus cancer after radical surgery.

Scenario: You are radiotherapy (RT) Intent Doctor/Special Nurse/Resident Doctor, and you are assigned to evaluate the following patient before visiting of your RT attending physician. Please review the following description carefully; your RT attending physician will visit this patient later and discuss with you after your review.

Case Presentation:

This 57–year-old male patient, 江 **OO**, was referred to us for radiotherapy assessment for 'esophagus cancer, post radical surgery, for RT evaluation'.

S:

1. In 2007/10, this patient was found to have a low-third esophagus tumor. Biopsy was done, and pathology reported squamous cell carcinoma.
2. On 2007/10/16, subtotal esophagectomy and LN dissection were done. Pathology reported pM1a, stage IV.
3. On 2007/11/29, you visit this patient in the ward.

Histories: type II DM for several years under regular OHA control; NDKA

Review of systems: increase bowel activity and abdominal pain after oral feeding in recent days.

O:

1. **General Condition**: ECOG: 1, sitting on bed, easy looking, speech: OK
2. **Physical Examinations**:
   (1). **HEENT & SCF**: bilateral SCF: no palpable LNs
   (2). **CHE**: neg.
   (3). **ABD**: a large surgical scar over the middle upper abdominal region; no tenderness; a feeding GI-tract-ostomy in place.
   (4). **Back & Spine**: no tenderness
   (5). **Extremities**: no limbs edema, free movement.
3. ***Pathology in 2007/10, esophagus, biopsy**: squamous cell carcinoma, poorly differentiated (Gr. 3)
4. ***Pathology in 2007/10, esophugectomy**: squamous cell carcinoma, poorly differentiated (Gr. 3), tumor size: 9*3.5*3.8 cm, 1.2 cm each to the bilateral cutting ends, adventitia invasion, LNs (perigastric: 1/5, paraesophageal: 0/5, group 7: 1/1, left gastric artery lymph node: 0/1)
5. **Images**:
   (1). Chest CT in 2007/10: low third esophagus tumor with some mediastinum LNs.
   (2). Esophagus-graph in 2007/10: low third esophagus tumor at the mid-heart level
6. **Others**: neg.

Key Image(s):

Fig. 1. Panel A. CT, Pre-OP

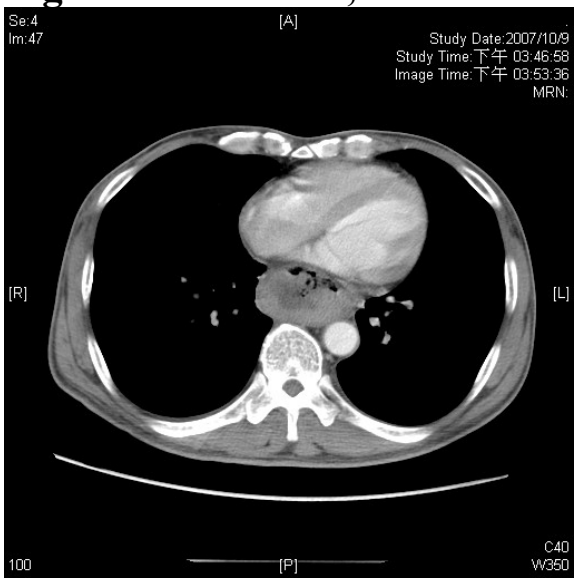


Fig. 1. Panel B. CT, Pre-OP

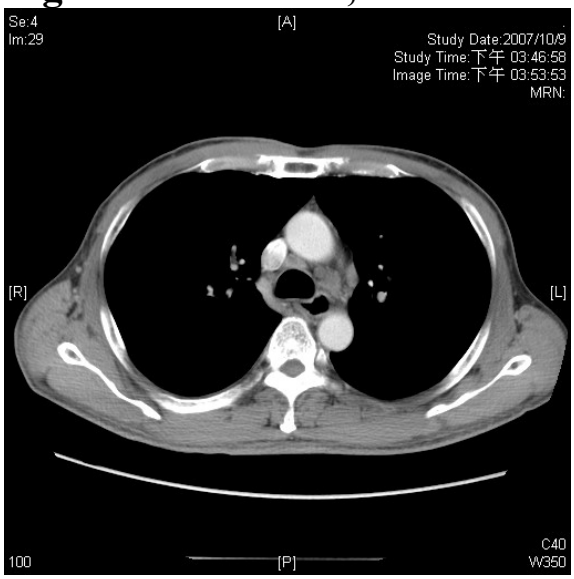
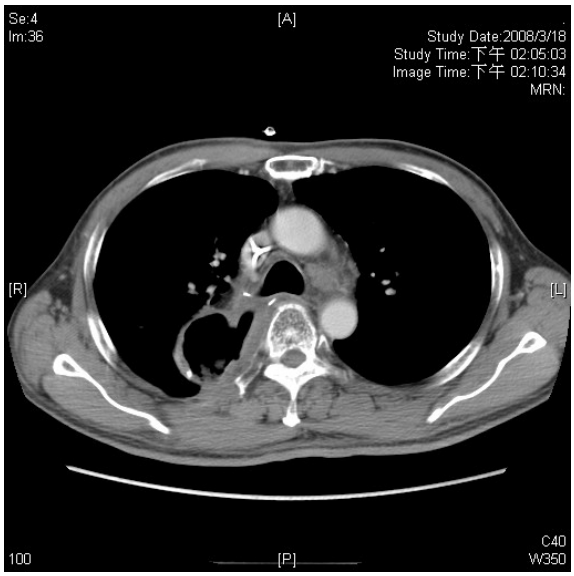


Fig. 2. Chest CT, Post-OP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MRN:
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100
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C40
W350

Questions & Discussions:

(Please answer the following questions commented from your RT attending physician.)

Q1: What are your *findings/interpretations* for the above key image(s)?

(After your RT attending physician discussed with the radiologist by telephone, the radiologist confirmed preliminarily that no other cancer metastases were found based on the chest CT films, including lung, liver, ribs & spine, and adrenal glands, and he said that some clinically significant lymph nodes over the mediastinum were found. Please further answer the following questions.)

Q2: What is your *clinical cancer stage*, according to the AJCC 2006, for this case?

Q3: What is your *pathologic cancer stage*, according to the AJCC 2006, for this case?

Q4: What are your *Oncology Diagnosis* and/or other *Assessments* for this case?

Q5: What is your *Oncology Plan* for this case?

Q6: What is your *Radiotherapy Plan* for this case?
(Please reply with the following form: *Indication/Contraindication, Goal, Target & Volume, Technique, and Dose & Fractionation*.)

Q7: If your RT treatment target/volume is to irradiate the primary tumor bed and mediastinum only, not to irradiate the pM1a LN-drainage region, what is your reason? On the other hand, if your RT treatment target/volume is to irradiate the primary tumor bed, mediastinum, and the intra-abdominal pM1a LN-drainage region, what is your reason?

Questions & Discussions: (with potential answers)

(Please answer the following questions commented from your RT attending physician.)

Q1: What are your *findings/interpretations* for the above key image(s)?

A1: As described in the last attached page.

(After your RT attending physician discussed with the radiologist by telephone, the radiologist confirmed preliminarily that no other cancer metastases were found based on the chest CT films, including lung, liver, ribs & spine, and adrenal glands, and he said that some clinically significant lymph nodes over the mediastinum were found. Please further answer the following questions.)

Q2: What is your *clinical cancer stage*, according to the AJCC 2006, for this case?

A2: cT3 N1 M0 stage III (AJCC 2006). The evidence for classification and staging is as follows: ***cT3***, significant wall thickness, most favor T3 disease than T1-2 disease in clinical setting --- however, need to know that this cT3 classification is based on currently NO available staging data from esophagus trans-lumen ultrasound; ***cN1***, mediastinum LNs; ***cM0***, no evidence of distant metastases, including the M1a intra-abdominal LNs, based on current CT data.

Q3: What is your *pathologic cancer stage*, according to the AJCC 2006, for this case?

A3: pT3 N1 M1a stage IV (AJCC 2006).

Q4: What are your *Oncology Diagnosis* and/or other *Assessments* for this case?

A4:

1. **Oncology Diagnosis**: Squamous cell carcinoma, poorly differentiated (Gr. 3), of the esophagus, low third, cT3N1M0, stage III (AJCC 2006, 2007/10), post subtotal esophagectomy and LN dissection (2007/10/16), pT3(adventitia)N1(AP window, pre-carina)M1a(perigastric LN, 1/5), stage IV (AJCC, 2002)
2. **RT may be indicated for this patient in current condition.**

Q5: What is your *Oncology Plan* for this case?

A5:

1. **Suggest post-op chemotherapy (due to N1 and pM1a)**
2. **Consider post-op RT (primarily due to gross residual LN over the AP window)**

Q6: What is your *Radiotherapy Plan* for this case?

(Please reply with the following form: *Indication/Contraindication, Goal, Target & Volume, Technique, and Dose & Fractionation*.)

A6: RT Plan may be designed as the following one:

(1). **Indication**: gross residual LN over the AP window after radical surgery; pT3

(2). **Goal**: from prolong survival shifting to potentially curative (due to non-massive burden in pM1a disease)

(3). **Target & Volume**: primary tumor bed and mediastinum LN irradiation; consider pM1a LN irradiation if possible or if no chemotherapy

(4). **Technique**: 2DRT or 3DCRT
(5). **Dose & Fractionation**: 4500 cGy in 25 fractions first then cone-down boost to 5940-6300 cGy in 33-35 fractions to the residual gross nodal disease.

Q7: If your RT treatment target/volume is to irradiate the primary tumor bed and mediastinum only, not to irradiate the pM1a LN-drainage region, what is your reason? On the other hand, if your RT treatment target/volume is to irradiate the primary tumor bed, mediastinum, and the intra-abdominal pM1a LN-drainage region, what is your reason?

A7:

(Condition 1). I decided to irradiate the primary tumor bed and mediastinum only, not to irradiate the pM1a LN-drainage region. My reason is that I set the oncology treatment goal of prolong survival. So, I planned to irradiate the T and N region, and I leaved the pM1a region to be covered by chemotherapy.
(Condition 2). I decided to irradiate the primary tumor bed, mediastinum, and the intra-abdominal pM1a LN-drainage region. My reason is that I set the oncology treatment goal of potential curative. So, I planned to irradiate the all failure-at-risk regions in this patient.

(Open discussion for these two conditions.)

Further Readings & References: AJCC 2006 and NCCN esophagus treatment guideline (2008)

Radiation Oncologist
Hon-Yi Lin 2008/09/22

Key Image(s): (with marked)

Fig. 1. Panel A. CT, Pre-OP

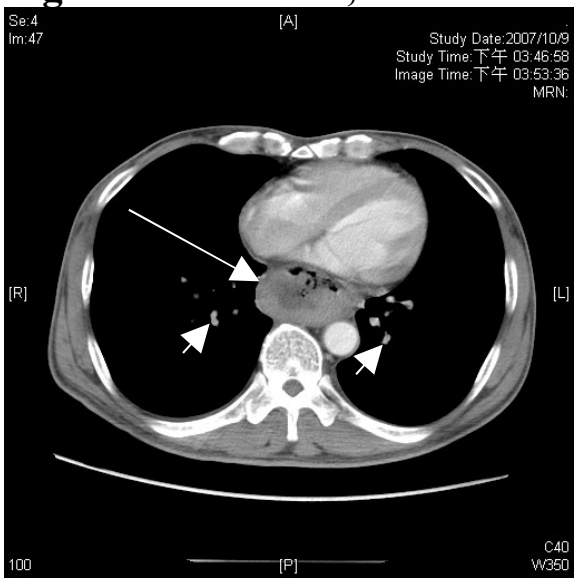

Fig. 1. Panel A. Chest CT, Pre-Operation:

1. c/w an esophagus tumor, low-third, just over the mid-heart level, with significant wall thickness, with dilated lumen, with some fluid content in it (as the long white arrow).
2. Some obvious intra-pulmonary vessels were seen; not lung metastatic lesions (as the short white arrows).

Fig. 1. Panel B. CT, Pre-OP

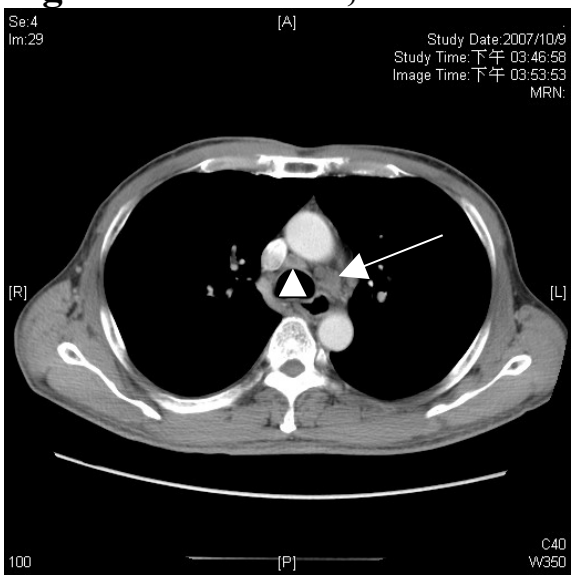

Fig. 1. Panel B. Chest CT, Pre-OP: c/w multiple mediastinum LNs: the AP window LNs (as the long white arrow); and the pre-tracheal LN (as the short white arrow).

Fig. 2. Chest CT, Post-OP

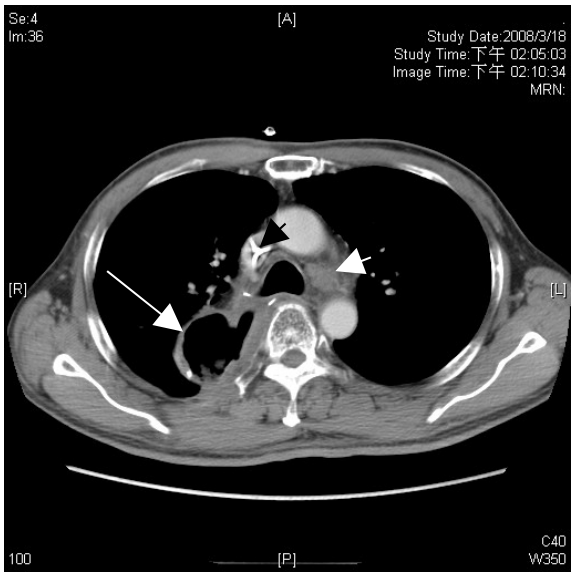

Fig. 2. Chest CT, Post-operation:

1. Colon reconstruction in place (as the long white arrow).
2. A residual enlarged LN over the AP window.
3. Metal artificial sign from the inserted Port-A tube (as the black arrow).