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A rare case of rectus abdominis metastasis of lung adenocarcinoma

Vishal Mundra

Department of Internal Medicine, St. John Medical Center, Tulsa, OK, U.S.A.

Summary

Background:

Lung cancer accounts for more deaths than any other cancer in the country for both men and women. Here we describe a case of rectus abdominis muscle, small bowel and mesenteric metastasis with poorly differentiated lung adenocarcinoma at the time of diagnosis.

Case Report:

This is a case of 51 year old male patient who came with complains of severe abdominal pain for 3 days. He had a workup done for hemoptysis (over 2 months) including a CT chest which showed a 3.1×2.7cm cavitory lesion but the following bronchoscopy for malignancy was negative. He had a 30 pack year smoking history and had quit 10 years back. CT abdomen showed dense lobular mesenteric mass likely representing hemorrhagic mass seen in the right aspect of the mesentery. A second lesion was seen at inferior lateral aspect of the right rectus muscle which likely represents hemorrhagic lesion with hemoperitonuem. Pathology result came back as most consistent with metastatic poorly differentiated pulmonary adenocarcinoma. The patient is undergoing radiation treatment at present.

Conclusions:

There are very few case reports of lung cancer presenting with small bowel obstruction or perforation as the initial presentation. Skeletal muscle metastasis although rare, has been described to forearm, gluteal and psoas muscle. Our case presented as a hemorrhage resulting in overlying bruise which is not described before. Treatment options for such cases are not clear but as the patients usually have advanced disease at the time of diagnosis. Multimodality treatment options including surgical excision, chemotherapy and radiotherapy have been tried with mixed results.

key words:

lung adenocarcinoma • metastasis • mesentery and rectus abdominis

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Author's address:

Vishal Mundra, 1705 E. 19th St., Holliman Building, Suite 302, Tulsa, OK 74104, U.S.A.,
e-mail: mundravishal@hotmail.com

BACKGROUND

Lung cancer is one of the most common cancers in US. It accounts for more deaths than any other cancer in the country for both men and women [1]. NSCLC is the most common type of lung cancer. 5 year survival for metastatic disease is less than 5% [2]. Metastasis to liver, bone, brain, contralateral lung, lymph nodes and adrenal is well known. Here we describe a case of rectus abdominis muscle, small bowel and mesenteric metastasis with poorly differentiated lung adenocarcinoma at the time of diagnosis.

CASE REPORT

This is a case of 51 year old male patient who came to ER with complains of severe abdominal pain for 3 days. It was described as severe, predominantly lower abdominal and not associated with any bladder bowel symptoms. This morning he also noticed a bruise over his right flank. There was no h/o any trauma or injections or existing bleeding disorder. He denied use of any blood thinners. He had a workup done for hemoptysis (over 2 months) including a CT chest which showed a 3.1×2.7cm cavitory lesion but the following

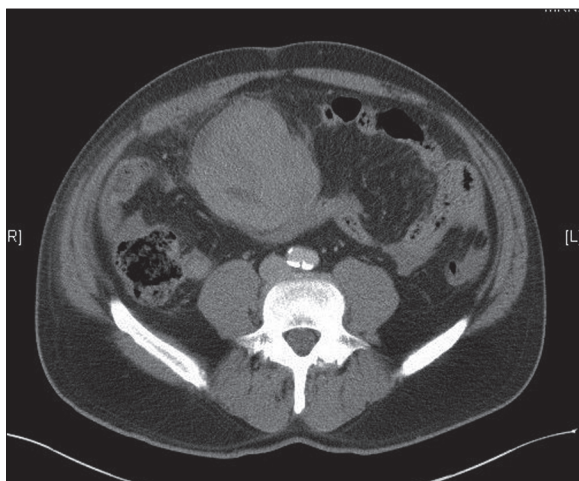


Figure 1. CT Abdomen showing dense lobular mass in the right side of mesentery.



Figure 2. CT Abdomen showing another mass at inferior lateral part of right rectus abdominis muscle.



Figure 3. PET scan showing contained foci in the dependent portion of right lung suspected for metastatic tumor.

bronchoscopy for malignancy and work up for infections were negative. Past medical history was significant for peptic ulcer disease and HTN. He had a 30 pack year smoking history and had quit 10 years back. No use of alcohol reported. Family history was noncontributory.

On exam, he was in mild distress due to abdominal pain but with stable vitals. Chest was clear to auscultation. Abdomen showed moderate diffuse tenderness but no rebound or guarding was present. Right rectus abdominis had a 4×4 cm ecchymosis. Labs showed White count 10.1, hemoglobin 8.3, hematocrit 24, platelets of 392,000. PT/PTT and INR were within reference range. Complete metabolic panel was unremarkable.

CT abdomen showed dense lobular mesenteric mass likely representing hemorrhagic mass seen in the right aspect of the mesentery at the level of aortic bifurcation. An underlying mesenteric primary or metastatic lesion or sequelae of disseminated infection could not be excluded (Figure 1). A second lesion was seen at inferior lateral aspect of the right rectus muscle which likely represents hemorrhagic lesion (Figure 2). Blood was seen in upper abdomen and dependent pelvis.

He underwent exploratory laparotomy which revealed omental tumor, intraluminal small bowel tumor, hemoperitoneum and right rectus abdominis tumor. He underwent partial small bowel resection with omentectomy. Clips were placed around the right rectus abdominis wall tumor to mark it for further treatment.

Pathology result came back as most consistent with metastatic poorly differentiated pulmonary adenocarcinoma with extensive hemorrhage based on combined histology and immunohistochemical features. The biopsy was positive for TTF-1 antibody suggesting a pulmonary origin. MRI brain showed left frontal lobe mass most likely metastatic in nature. PET CT scan shows cavitory mass in the right lung, large right pleural effusion which has significantly increased in size and contains

foci of uptake in its dependent portion concerning for pleural metastasis, uptake in the posterior lateral right chest wall and in the right axillary lymph node and intramuscular metastases in the right rectus abdominis muscle (Figure 3). The patient is undergoing radiation treatment at present.

DISCUSSION

Distant metastasis to various sites including brain, bone, liver and adrenal is well known for lung cancer. There are few case reports of lung cancer presenting with small bowel obstruction or perforation, cystic liver metastasis, splenic, endometrial or ovarian metastasis as the initial presentation [3–11]. Skeletal muscle metastasis although rare, has been described to forearm, gluteal and psoas muscle [12–15]. Various theories including seed and soil *, pH, lactic acid and contractile action have been postulated for this rare occurrence [16,17]. Pain was the most common symptom (83%) [11]. Palpable was seen in 78% of cases [11]. As per our pub med search, only two cases of rectus abdominis metastasis have been described in English literature [18,19].

CONCLUSIONS

Our case presented as a hemorrhagic metastasis of rectus abdominis resulting which has not been described before. Treatment options for such cases are not clear but as the patients usually have advanced disease at the time of diagnosis. Disease free interval of less than 6 months and multiple metastases have been associated with 0% survival at 5 years. Multimodality treatment options including surgical excision, chemotherapy and radiotherapy have been tried with mixed results.

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