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Deep Venous Thrombosis as an Initial Manifestation of Rectal Adenocarcinoma Metastasis to Skeletal Muscle: Case Report

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Abstract: As times goes, the survival was improved attributed to target therapy and chemotherapy. Metastasis to skeletal muscle tissue is rare. Herein, we reported a case presenting with deep venous thrombosis but skeletal muscle metastasis. Though it was rare, oncologist shoud be keep in mind due to worse prognosis.

Keywords: rectum cancer; metastasis; skeletal muscle metastasis; deep vein thrombosis

1. Introduction

Colorectal cancer is third most common malignancy and second cancer-related mortality.[1] For metastasis of rectal cancer, lung is the most common,followed by lung, and peritoneum.[2] As times goes, the survival was improved attributed to target therapy and chemotherapy. Therefore, less possibility of metastasis increased included brain, duodenum, bone, and nervous system. Metastasis to skeletal muscle tissue is rare. Herein, we reported a case presenting with deep venous thrombosis but skeletal muscle metastasis to quardriceps medialis and adductor magnus as manifestation of adenocarcinoma of rectum.

2. Case Report

An 66-year-old female has a no medical history. She was presented with diarrhea, change in defecation habit and tenesmus and visited to outpatient department. On rectal examination, a annular mass was palpable at 5 cm from the anal verge. Biopsy from the mass showed adenocarcinoma. Pelvic magnetic resonance imaging and positron emission tomography were ordered and revealed rectal cancer, cT3N2M0. She was received neoadjuvant concurrent radiotherapy and chemotherapy followed by transanal total mesorectal excision with ileostomy. Pathology revealed pT3N2M0, stage III. She regularly visited outpatient department and ileostomy closure was applied after three months later. However, anal pain was complained. Anal nodule was found and biopsy revealed adenocarcinoma. Local recurrence was impressed and laparoscopic abdominoperineal resection was performed. We suggested infusion chemotherapy but she refused. Therefore, she was started on tablet capecitabine. After five months of operation, she complained left leg swelling. Abdominal computed tomography was ordered and it revealed May-Thurner syndrome with left side deep vein thrombosis. (Figure 1) Enoxaparin was prescribed first and rivaroxaban substituted it. Besides, stent was inserted. However, swelling persisted and lower limb computed tomography was ordered again 3 months later. It revealed May-Thurner syndrome post stenting, collapsed left proximal superficial femoral vein related to external compression, and diffuse calcification and area of low density in the left thigh muscle.(Figure 2,3) Computed tomography biopsy was applied and pathology revealed adenocarcinoma. On the other side, she had peritoneal

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carcinomatosis and intestinal obstruction and ileocecal bypass was performed. Target therapy with chemotherapy was given and she passed away one year later.

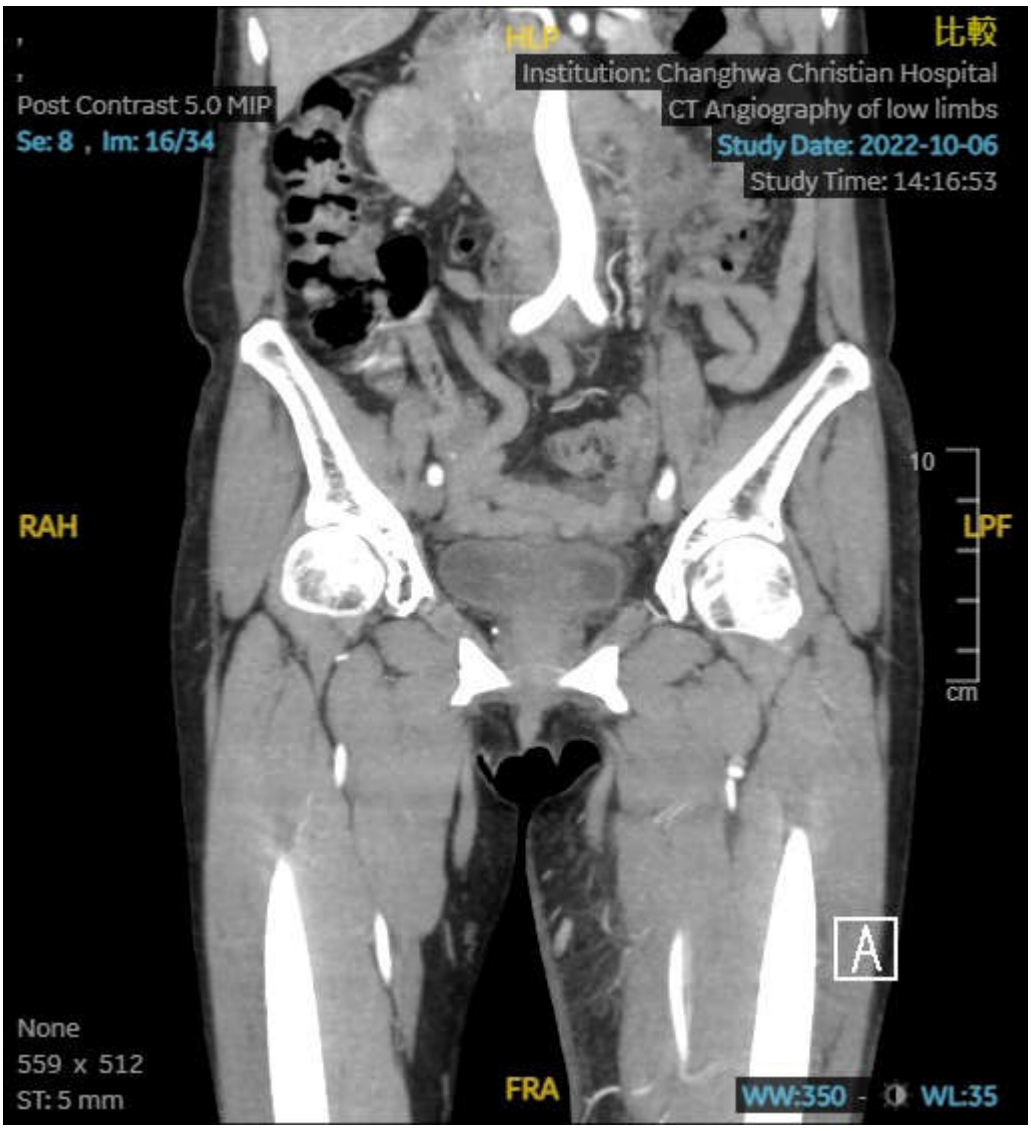

Figure 1. Coronal view of abdominal computed tomography revealed May-Thurner syndrome with left side deep vein thrombosis.

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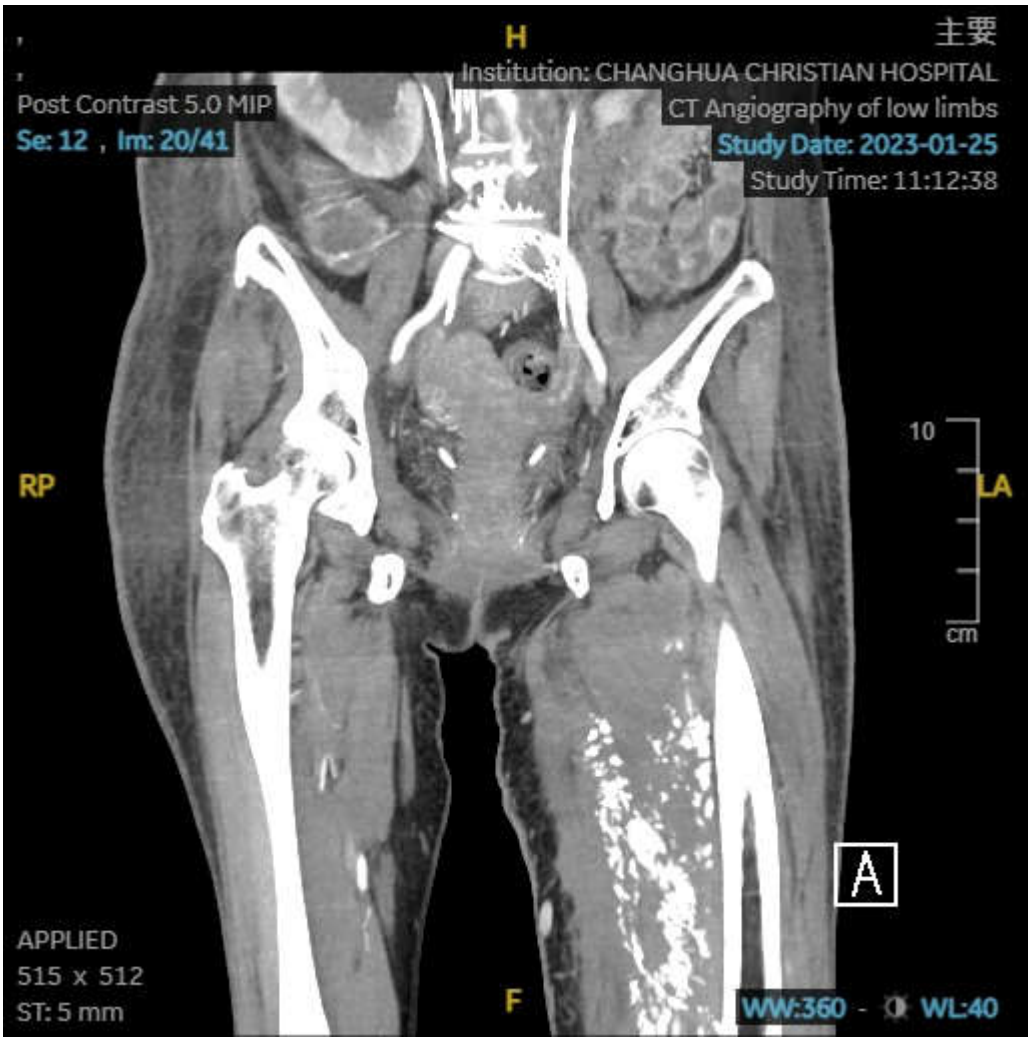

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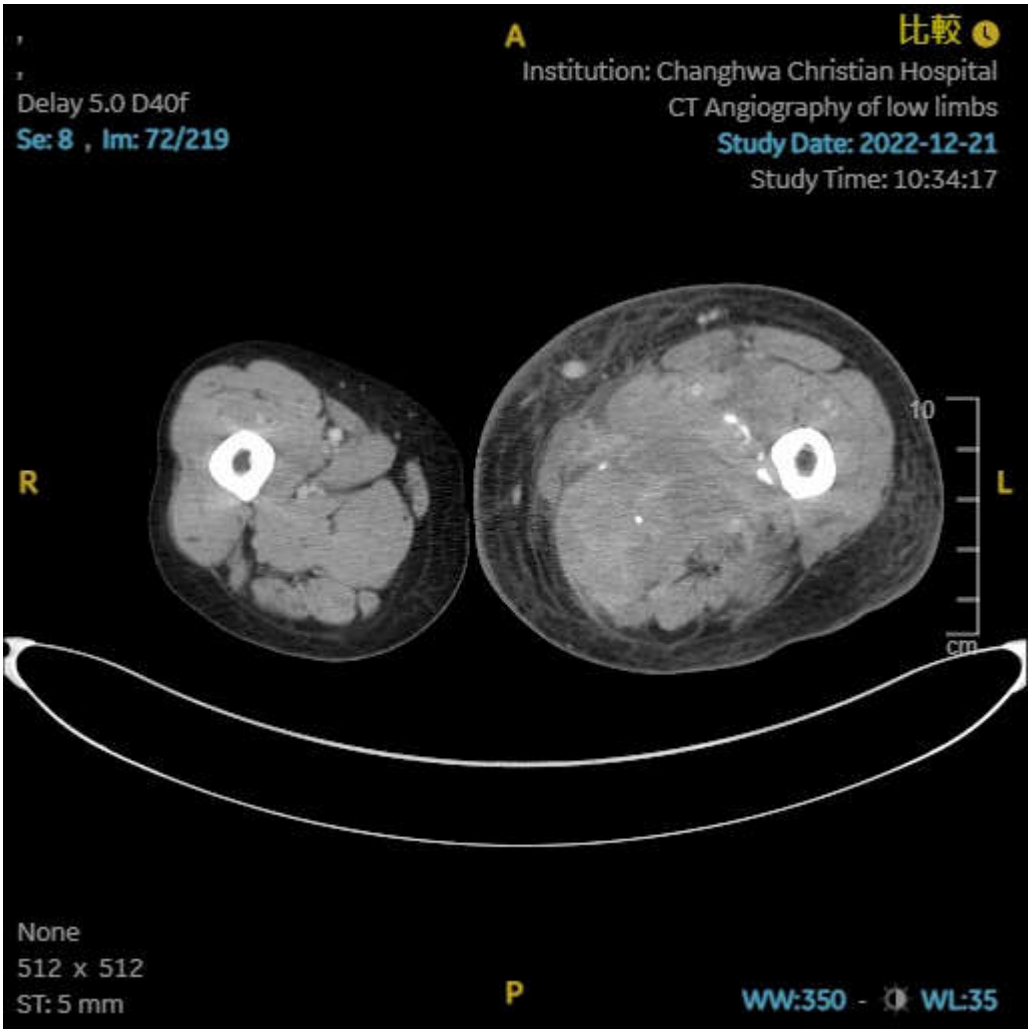

Figure 2,3. Abdominal computered tomography revealed diffuse calcification and area of low density in the left thigh muscle. (2) Coronal view (3) Transverse view.

3. Discussion

Approximately 80% of recurrences manifest with the initial 3 years after surgery and 95% occurring within 5 years. Primary tumor of skeletal muscle metastasis is most common in gastrointestinal, followed by lung and malignant melanoma. Different tumor tends to certain muscles frequently. For skeletal muscle metastasis, trunk is most common,followed by iliopsoas and gluteal muscle.[3]

The presentation of computed tomography has five type. Muscle metastasis type 1 and 2 were most common. Type IV was rare and present with calcification of myositis ossificans, calcific tendinitis, and calcific myonecrosis as our case.[3]

The etiology of metastasis included hematogeneous, lymphatic, peritoneal spread or direct extension of the tumor. For muscle, muscle sarcolemma is a physical barrier like blood brain barrier to protect from invasion.[4] It can't be metastasized easily without direction invasion. In this case, we suspected it was related to deep venous thrombosis causing blood stasis. The concept was explained by the seed and soil theory. [5]

Patients with metastasis to liver or lung have a better prognosis than those with metastasis to brain, bone, and skeletal muscle. The prognosis of metastasis to skeletal muscle is poor with expected survival ranging from 5 to 12 months. [6]

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4. Conclusion

Metastasis to skeletal muscle is rare and deep vein thrombosis may be one of risk factors. When the symptoms persist, keep metastasis in mind.

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Data Availability Statement: The data presented in this study are available on request from the corresponding author. The data are not publicly available due to privacy and ethical reasons.

Conflicts of Interest: The authors declare no conflicts of interest.

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