

Abdominal pain due to cough-induced internal oblique and transverse abdominis hematoma in a patient with H1N1 influenza

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ABSTRACT

Musculoskeletal complications have been observed following severe sustained coughing. Abdominal muscle hematoma can occur as a result of acute or chronic collection of blood following disruption of blood vessels or muscle tear. The condition is uncommon and can mimic other causes of acute abdomen. We report the case of a 60 year old female who presented with severe abdominal pain following 2 days of severe sustained cough. Her abdominal imaging revealed hematoma in the right abdominal wall involving internal oblique and transverse abdominis muscles. She was managed without any surgical intervention, and improved.

Keywords: Abdominal pain, Cough, H1N1 influenza, Internal oblique hematoma, Transverse abdominis hematoma.

Cough is a reflex mechanism which helps to protect the airways from foreign material and excessive secretions. While coughing, there is a sudden coordinated contraction of the thoracic, abdominal, and pelvic muscles; thereby increasing the intrathoracic and intra-abdominal pressure. Rib fractures are the commonest complications of severe sustained cough [1]. Other complications include abdominal wall herniation, diaphragm rupture and abdominal wall hematoma [2].

Abdominal wall hematoma can occur following surgery, abdominal trauma or excessive strain on the abdominal musculature. The rectus sheath is a common site, due to direct damage to the rectus muscle or injury to the superior or inferior epigastric arteries. The condition is usually seen among those on anticoagulant therapy. Cough has been noted as the triggering factor for about one third of cases of rectus sheath hematomas [3]. It is an uncommon cause for acute abdomen and can mimic other etiologies by presenting as painful abdominal mass [4].

The patient being reported presented with severe abdominal pain due to cough-induced hematoma involving the internal oblique and transverse abdominis muscles. Rectus sheath hematomas presenting as acute abdomen has been described; however, such a scenario due to hematomas of internal oblique and transverse abdominis muscles are rare.

CASE REPORT

A 60-year-old female, with no prior comorbidities, presented with severe right sided abdominal pain since 1 day. She also noticed bluish discoloration of skin over the region which was tender. She had fever and severe sustained dry cough for the past 2 days. She

was not on any medications; and there was no history of trauma or prior surgeries.

On examination, she was conscious, oriented, with a temperature of 100°F. She had a body mass index of 21.25 kg/m². Her pulse rate was 100/minute, blood pressure 120/70 mmHg and respiratory rate 22/minute with saturation 92% in room air. She had bilateral rhonchi; and her abdominal examination revealed ecchymosis of right flank with smooth tender mass (6 x 5 cm) and no local rise in temperature. Other systemic examinations were normal.

Her laboratory investigations showed anaemia (Hb 11 g/dL) with normal white blood cells (9400/mm³ with neutrophils 70%, lymphocytes 26% and eosinophils 4%) and platelets (174,000/mm³). Her renal and liver functions, electrolytes, amylase and lipase, prothrombin time, activated partial thromboplastin time, bleeding and clotting time were normal. Contrast enhanced computed tomography (CECT) of the abdomen revealed a hematoma (6.5 x 5.6 x 4.9 cm) in the right anterolateral abdominal wall involving the internal oblique and transverse abdominis muscles with active contrast extravasation from branches of the lowest intercostal artery (Fig. 1). Her throat swab for H1N1 (RNA-PCR) was positive and culture was sterile.

She was started on oral oseltamivir (75 mg twice daily), nebulizations (formoterol and fluticasone) and cough suppressant syrup (dextromethorphan). The following day, there was not much drop in hemoglobin (Hb 10.7 g/dL). Her cough symptoms improved and her serial hemoglobin levels continued to be stable. She was managed conservatively with bed rest and analgesics (intravenous tramadol 25 mg). By day 6 of admission, her cough and abdominal pain had completely subsided. Oral oseltamivir

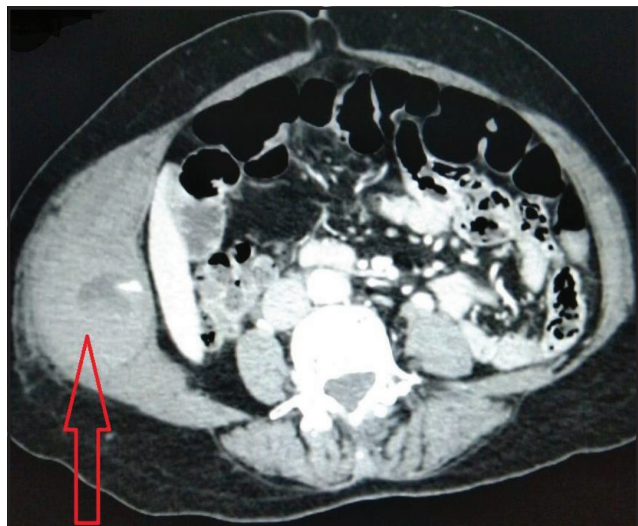


Figure 1: CECT abdomen showing hematoma involving in the right internal oblique and transverse abdominis muscles.

(75 mg twice daily) was given for total of 5 days. She was discharged on day 10 of admission. On review after 3 weeks, her ecchymosis had disappeared and her repeat CECT abdomen revealed complete resolution of the hematoma.

DISCUSSION

Non-traumatic abdominal wall hematoma occurs due to over contraction or overstretching of the abdominal muscles by coughing, sneezing, vomiting or exercise. Factors like old age, hypertension, arteriosclerosis, previous surgeries, obesity, pregnancy, bleeding disorders and anticoagulant therapy have also been associated with hematomas. It has been noted that approximately 70% of patients with rectus sheath hematoma were on anticoagulants at the time of diagnosis [3,5]. In most cases, conservative management is sufficient; with surgery being reserved for those with progression of the hematoma or its rupture into the peritoneal cavity or infection. Angiographic embolization can also be used to control bleeding [6,7].

With only a handful of cases being reported, hematomas involving the internal oblique and transverse abdominis muscles are rare. In all these case, the patients were managed conservatively with analgesics, without any surgical intervention. There was complete resolution of ecchymosis and hematoma [6,8-11]. The probable mechanism involved is damage to lumbar arteries or lower intercostal arteries or ascending branches of deep circumflex iliac artery. Our patient developed hematoma of internal oblique and transverse abdominis muscles due to severe

sustained coughing following H1N1 infection, in the absence of any predisposing factors. She was not obese and did not have any comorbidity, and was not on any anticoagulants.

CONCLUSION

Abdominal wall hematoma is an uncommon cause of severe abdominal pain, and can mimic other etiologies. Hematoma involving the internal oblique and transverse abdominis muscles is a rare scenario. Abdominal pain with tender abdominal mass in the presence of severe cough, especially with history of anticoagulant therapy, should raise the possibility of an abdominal wall hematoma; thereby avoiding unnecessary surgical interventions.

REFERENCES

1. Kawahara H, Baba H, Wada M, Azuchi M, Ando M, Imura S. Multiple rib fractures associated with severe coughing—a case report. *Int Orthop.* 1997;21:279-81.
2. Irwin RS. Complications of cough: ACCP evidence-based clinical practice guidelines. *Chest.* 2006;129:54S-8S.
3. Cherry WB, Mueller PS. Rectus sheath hematoma: Review of 126 cases at a single institution. *Medicine.* 2006;85:105-10.
4. Khan MI, Medhat O, Popescu O: Rectus sheath hematoma (RSH) mimicking acute intra-abdominal pathology. *NZ Med J.* 2005;118:1217
5. Linhares MM, Lopes Filho GJ, Bruna PC, Ricca AB, Sato NY, Sacalabrini M. Spontaneous hematoma of the rectus abdominis sheath: A review of 177 cases with report of 7 personal cases. *Int Surg.* 1999;84:251-7.
6. Nakayama T, Ishibashi T, Eguchi D, Yamada K, Tsurumaru D, Sakamoto K, *et al.* Spontaneous internal oblique hematoma successfully treated by transcatheter arterial embolization. *Radiat Med.* 2008;26:446-9.
7. Shimizu T, Hanasawa K, Yoshioka T, Mori T, Kajinami T, Yokoyama K, *et al.* Spontaneous hematoma of the lateral abdominal wall caused by a rupture of a deep circumflex iliac artery: Report of two cases. *Surg Today.* 2003;33:475-8.
8. Tai CM, Liu KL, Chen CC, Lin JT, Wang HP. Lateral abdominal wall hematoma due to tear of internal abdominal oblique muscle in a patient under warfarin therapy. *Am J Emerg Med.* 2005;23:911-2.
9. Kodama K, Takase Y, Yamamoto H, Noda T. Cough-induced internal oblique hematoma. *J Emerg Trauma Shock.* 2013;6:132-4.
10. Imai J, Ichikawa H, Sugita M, Watanabe N. Non-traumatic Internal Oblique Muscle Hematoma. *Intern Med.* 2017;56:1127-8.
11. Shimodaira M, Kitano T, Kibata M, Shirahata K. An oblique muscle hematoma as a rare cause of severe abdominal pain: a case report. *BMC Res Notes.* 2013;6:18.

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