

## A case of chronic expanding hematoma of the thorax with preemptive trans-arterial embolization

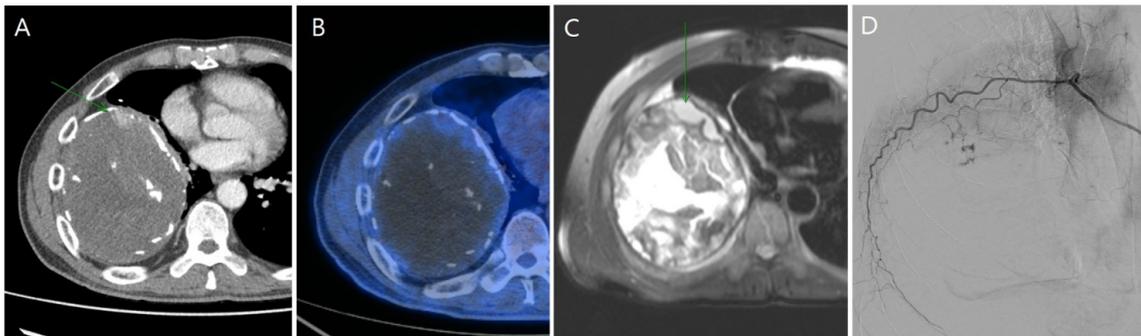
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**Introduction:** Chronic expanding hematoma (CEH), often mimicking malignancy, is a slowly-growing hemorrhagic mass. Here we report a case of chronic expanding hematoma with preemptive embolization.

**Case Report:** In 2004, 45-year-old man presented with an asymptomatic mass in the right thorax and a diagnosis of chronic empyema was suspected. He had a history of pleurisy in his 20s. In 2019, his medical checkup showed that the mass had been growing up to 13cm. He was still asymptomatic so he was recommended for follow-up every 6 months. In 2020, chest computed tomography (CT) showed a 18mm focal enhancing lesion inside the mass, which was suspicious for chronic empyema-associated malignancy or CEH (Fig. A). To exclude neoplasm, 18F-fluorodeoxyglucose (FDG) positron emission tomography/CT (PET/CT) and magnetic resonance imaging (MRI) were done. There was subtle FDG uptake inside the mass, which was more appropriate for chronic inflammation (Fig. B). MRI showed variable T1 and T2 signal intensities inside the mass, which suggested different stages of hemorrhage (Fig. C). A few more enhancing lesions were also found at the peripheral portion and part of them was communicated with surrounding vessels. Therefore, a diagnosis of CEH was strongly suggested. The patient was still asymptomatic and there was no evidence of mass effect on other adjacent organs. However, further increase of CEH and compression of the heart can cause critical outcomes such as massive hemoptysis and hemodynamic compromise. Surgical excision was discussed but perioperative risk of bleeding and infection seemed to be substantial. Preemptive trans-arterial embolization was performed for bleeding branches of right 5th, 6th and 7th intercostal arteries (Fig. D). The patient had no immediate complication and was all right 3 months after embolization.

**Discussion:** CEH is a rare disease entity, but it should be considered for a slowly expanding mass in patients with histories of tuberculous pleurisy, surgery or trauma. Chest MRI and PET/CT can help to differentiate CEH from neoplasm. Early diagnosis and preemptive embolization may obviate the need for emergency surgery and bring favorable outcome.



**Fig A:** Chest CT scan shows 18mm sized focal enhancing lesion inside the huge mass of right lower thorax.

**Fig B:** PET/CT scan shows subtle uptake inside the mass.

**Fig C:** Chest MRI shows variable T1 and T2 signal intensities inside the mass, which indicates different stages of hemorrhage.

**Fig D:** Intercostal arterial angiography shows hypervascular stainings surrounding the mass.