ABSTRACT
Rasmussen’s aneurysm is a rare phenomenon and should be considered in patients with massive hemoptysis especially with old history of pulmonary tuberculosis (PTB). We present a case report of 62 years old diabetic lady with previous history of PTB which ended with diagnosis of Rasmussen’s aneurysm.

Keywords: Cardiopulmonary resuscitation, Hemoptysis, Rasmussen’s aneurysm.


Source of support: Nil
Conflict of interest: None

INTRODUCTION
Pulmonary tuberculosis (PTB) still remains a widely prevalent disease in South East Asia and Africa. It is also known to leave behind a lot of devastation like: cavity, tuberculosis, bronchial stenosis, bronchiectasis, lymph nodes calcifications, Rasmussen’s aneurysm, etc. even after the disease is declared cured. Rasmussen’s aneurysm is a rare phenomenon caused by weakening of the pulmonary or bronchial artery wall from adjacent cavitary tuberculosis, with a prevalence of 5%. Massive hemoptysis is a life-threatening condition associated with a mortality rate of > 50% and ruptured Rasmussen’s aneurysm should be considered in patients with massive hemoptysis especially if there is a history of PTB. We present a case report of a patient of massive hemoptysis which has later proven to be a case of Rasmussen’s aneurysm.

CASE REPORT
A 62 years old diabetic lady with previous history of PTB presented to us with complain of massive hemoptysis after severe coughing. Patient was in cardiac arrest as soon as the patient arrival to the emergency unit, immediate cardiopulmonary resuscitation with chest compression, endotracheal intubation and intravenous epinephrine 1 mg with an interval of 3 minutes for asystole was given. Soon the blood pressure of 172/98 mm Hg and pulse rate of 78 beats/minute was achieved. Persitant bleeding via endotracheal tube can be seen. Blood transfusion, intravenous fluid replacement, tranexamic acid and vasopressor were also given. Rupture of major vessels was suspected as a cause for bleeding. Laboratory evaluation revealed a white blood cells count of 13300/mm³ with a differential count of polymorphs 58%, lymphocytes 32%, eosinophils 1%, monocytes 2% and basophils 0%. Hemoglobin was 8.5 gm/dl and platelet counts were 153 × 10³/mm³. Liver function test (LFT), Renal function test (RFT) and Bleeding time (BT)/clotting time (CT)/prothrombin time (PT) – international normalized ratio (INR) were in normal range. Her bedside chest X-ray had evidence of old healed lesions in both apices and bilateral alveolar infiltrations. Thoracic contrast enhanced 64-slice multidetector computed tomographic pulmonary angiogram revealed a thick-walled cavitary lesion with surrounding fibrosis and bronchiectatic changes in posterior segment of right upper lobe, there was dilatation of pulmonary arterial wall (Rasmussen’s aneurysm) along the posterior aspect of the cavity (Fig. 1).

Fig. 1: Thoracic contrast enhanced 64-slice multidetector CT pulmonary angiogram
Rasmussen’s Aneurysm: Rare Cause for Massive Hemoptysis in Pulmonary Tuberculosis Patients

**DISCUSSION**

Rasmussen aneurysm was named after Fritz Valdemar Rasmussen, he was a Danish Physician (1837–1877). Rasmussen aneurysm can be present in up to 5% of patients with chronic cavity tuberculosis on autopsy. Hemoptysis is the usual presenting symptom and may be life-threatening when it is massive. A weakening of the pulmonary or bronchial artery wall from adjacent cavitory tuberculosis is the cause of this condition: there is a progressive weakening of the arterial wall as granulation tissue replaces both the adventia and the media, this is then gradually replaced by fibrin, resulting in thinning of the arterial wall, pseudoaneurysm formation and subsequent rupture with hemorrhage.

Usually distributed peripherally and beyond the branches of main pulmonary arteries. Mandatory radiological studies should include thoracic contrast enhanced 64-slice multidetector computed tomography angiography and digital substrate angiography to differentiate between bleeding from pulmonary or bronchial origins. Surgical or angiographic interventions with endovascular embolization is recommended in this life-threatening conditions.

**CONCLUSION**

Rasmussen’s aneurysm is a rare sequelae of PTB but can be fatal in every way. Aggressive management is to be considered mandatory in each cases.

**REFERENCES**

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