Spontaneous Endobroncheal Erosion of a Bullet – An Uncommon Presentation of Gunshot Trauma in Remote Past

M S NABI K'K CHIMA S A CHEEMA
Department of Thoracic Surgery, Services Hospital, Lahore
Correspondence to Dr. Muhammad Shoaib Nabi E-mail: one111@hotmail.com

A case of unknown bullet trauma to the lung, in remote past, presented with hemoptysis which was mislabeled as hematemesis. Once labeled, a number of physicians, one after the other, kept on treating her for that symptom. She also consulted a number of specialties and was treated for reflux esophagitis, tuberculosis etc. Meanwhile her x-ray chest revealed a foreign body which was treated as an artifact first, and proved to be a bullet on CT scan. Thoracotomy had to be performed to remove the pathologic right lower lobe of lung.
Key words: Chest trauma, gunshot trauma-chest, bullet injury

Gunshot wounds of chest region are quite common. Many authors purpose conservative attitude in certain of these cases but management of these cases depends on a number of factors including the severity of the initial injury, magnitude of the tissue destruction, location of the bullet and development of symptoms. Bullets in the soft tissue behave quite interestingly and may pose problems regarding diagnosis and therapeutic management[1]. Missiles, which become intravascular may behave in a quite different fashion and may get embolized to different organs[2]. It is a known phenomenon that bullets in the soft tissue may migrate with passage of time. Such migrating bullets in the lung may erode the lumen of the airway and present with hemoptysis and other complications like airway obstruction and post obstruction squeal[3].

A case of bullet injury to lung in remote past, presenting with hemoptysis and necessitating lobectomy is presented along with literature review.

Case Report:

Seventeen years old girl presented with complain of vomiting that contained blood, in June 2003, in a medical unit and was labeled as a case of having hematemesis. She was given initial treatment and then gastroscopy was done and the findings were "mild pan gastritis and mild esophageal reflux" and was given treatment accordingly for next two months. For next few months she was treated by various physicians for the same cause and she did not improve. In March 2004 she was diagnosed having hemoptysis and was referred to Chest Medicine. She was investigated for tuberculosis and was given anti tuberculous treatment. Meanwhile she got the opinion from ENT and was labeled having "pseudohemoptysis probably due to reflux esophagitis". She was given medication to treat the bleeding which had worsened during this time. In Oct 2004 she was admitted in the Emergency Department of Services Hospital and was labeled having hemoptysis / hematemesis. Opinion of ENT surgeon was sought regarding her complaint of irritation in the throat who advised x-ray chest. A white opacity in the lower right zone was taken as an artifact at first but repeat x-ray arouse the suspicion of a foreign body in the tracheobronchial tree. A CT scan was advised and patient was referred to Pulmonology Department. Here bronchoscopy confirmed a foreign body with fresh blood clots coming out from lateral segment of right lower lobe. CT scan reported a metallic density (2500-3000 HF units) seen in the right lower lung, posteriorly with heterogeneous hyper dense lesion around the density, indicating consolidation / lung contusion. Rest of the lung and diaphragm was declared normal. Right posterolateral thoracotomy was done and brochiectatic changes were confirmed. As a result right lower lobectomy was carried out. Exploration of the lower lobe revealed a bullet (Fig 1). Postoperative course was uneventful and patient recovered with no complications.

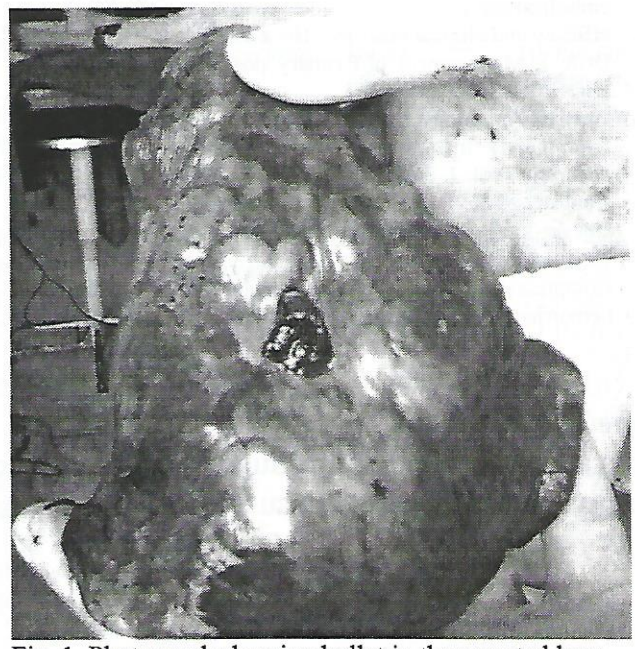

Fig .1. Photograph showing bullet in the resected lung

Discussion:

Inhalation of the foreign bodies is a common incidence in both the adults and kids[4]. Similar is the case with penetrating gunshot wounds of the chest. However bullets

behave quite interestingly in body. They may migrate long distance in the soft tissues before they ultimately settle. It is on record that in a case of bullet injury to the left shoulder the bullet migrated, within one week, through soft tissue and lodged in pararectal tissue from where it was retrieved by performing laparotomy.[5] Cases has been reported where the bullet migrated toward and within the pulmonary circulation from gunshot wound to the right upper abdominal quadrant[6]. Yet in another case with a penetrating bullet wound of the chest, the 0.38 caliber bullet was unexpectedly found entirely within the lumen of the right lower lobe bronchus at bronchoscopy[7]. Fulginiti reported a case of 28 years old man who aspirated a bullet fragment following a gunshot which was later on removed on flexible bronchoscopy while patient was on a ventilator[8]. Saunders reported a case with a bullet in the left hemithorax who developed bronchial erosion and hemoptysis 3 months after the injury, with subsequent expectoration of the bullet[1].

In another group of patients, these penetrating missiles may becomes intravascular emboli and pose diagnostic and therapeutic challenges.[2] These bullets may embolized to virtually any organ of the body i.e., lungs, heart, brain etc[9].

A bullet left in the lung for a longer time may lead to a number of problems like bronchial occlusion, post-obstructive lung infection with or without apparent hemoptysis. Lobectomy is considered the operative procedure of choice for this condition[3]. Case of incidental finding of the retained remote bullet in the heart has been reported[10].

Present case report is however a rare presentation as patient did not remember any incidence of gunshot penetrating injury to the chest region nor did she have any scar mark on the skin. The bullet from this presumed remote gunshot trauma migrated and eroded the airway lumen and thus presented with hemoptysis. Till that time the lung tissue had the under gone the complications associated with obstruction of the airway and lobectomy was considered as treatment of choice.

Case report also highlights the importance of proper detailed history. Proper history might have helped her to be labeled as a case of hemoptysis instead of hematemesis. Hence she might have been treated on the lines of hemoptysis right from the beginning and advised relevant investigations minimizing her suffering.

Case report also suggests that CT scan may a good tool to demonstrate the foreign body where other modalities may be unable to delineate it properly.

References:

1. Saunders MS, Cropp AJ, Awad M. Spontaneous endobronchial erosion and expectoration of a retained intrathoracic bullet: case report. J Trauma. 1992;6:909-11.
2. Mattox KL, Beall AC Jr, Ennix CL, DeBakey ME. Intravascular migratory bullets. Am J Surg. 1979;2:192-5
3. Kelley WA, James EC. Retained intrapulmonary bullet presenting with bronchial obstruction. J Trauma. 1976;2:153-4.
4. Abid Rashid, Farrukh Mehmood, Muhammad Yousaf Saleemi, Azhar Hameed. Foreign body in Tracheobronchial tree. Ann King Edward Med Coll 2004;3:250-1.
5. Ahmed S I, S Khadim Hussain. Migrating Foreign Body. Pakistan J Surg 2002; 1:43-4.
6. Petsas AA, Ghahramani AR, Green R. A wandering bullet. Successful removal and a simple technique to prevent its migration. J Thorac Cardiovasc Surg. 1975;6:954-6.
7. Choh JH, Adler RH. Penetrating bullet wound of chest with bronchoscopic removal of bullet. J Thorac Cardiovasc Surg. 1981;1:150-3.
8. Fulginiti J 3rd, Dedhia HV, Kizer J, Timberlake G. Retrieval of an aspirated bullet fragment by flexible bronchoscopy in a mechanically ventilated patient. Chest. 1993 ;2:626-7.
9. Howanitz EP, Murray KD, Galbraith TA, Myerowitz PD. Peripheral venous bullet embolization to the heart. Case report and review of the literature. J Vasc Surg. 1988;1:55-8.
10. Silverman EM, Littler ER. Bullet in the left ventricle from a remote gunshot wound to the heart. Chest. 1977; 2:234-6.