
Olgu tartışması

Giant bulla mimicking tension pneumothorax

Mertol GÖKÇE¹, Özkan SAYDAM¹, Remzi ALTIN², Levent KART²

¹ Zonguldak Karaelmas Üniversitesi Tıp Fakültesi, Göğüs Cerrahisi Anabilim Dalı,

² Zonguldak Karaelmas Üniversitesi Tıp Fakültesi, Göğüs Hastalıkları Anabilim Dalı, Zonguldak.

ÖZET

Tansiyon pnömotoraksı taklit eden dev bül

Göğüs grafisinde, tansiyon pnömotoraksı, bir hemitoraksta geniş radyolüsenite ve mediastinal yapıları karşı tarafa itmiş olarak izleriz. Dev bül de geniş radyolüsen görünümü ve mediastinal şift oluşturarak tansiyon pnömotoraksı taklit edebilir. Sunduğumuz olgu dev akciğer bülü olan 35 yaşında bir kadındır. Dev bül acil serviste tansiyon pnömotoraks olarak teşhis edilerek göğüs tüpü takılmıştır. Tansiyon pnömotoraks ile dev bülü ayırt etmek çok zordur. Bu iki çok benzer antitenin tedavileri tamamen farklıdır. Bundan dolayı anamnez, fizik muayene ve radyolojik incelemede, doğru tanı için çok dikkatli olmalıyız.

Anahtar Kelimeler: Dev bül, tansiyon pnömotoraks, göğüs tüpü.

SUMMARY

Giant bulla mimicking tension pneumothorax

Mertol GÖKÇE¹, Özkan SAYDAM¹, Remzi ALTIN², Levent KART²

¹ Department of Chest Surgery, Faculty of Medicine, Zonguldak Karaelmas University, Zonguldak, Turkey,

² Department of Chest Disease, Faculty of Medicine, Zonguldak Karaelmas University, Zonguldak, Turkey.

In the chest X-ray, we observe tension pneumothorax (TPX) as wide radiolucent view in a hemithorax and pushing the mediastinal structures contralateral. Giant bulla may mimic TPX with wide radiolucent view and mediastinal shift. The pre-

Yazışma Adresi (Address for Correspondence):

Dr. Mertol GÖKÇE, Zonguldak Karaelmas Üniversitesi Tıp Fakültesi, Göğüs Cerrahisi Anabilim Dalı 67600 Kozlu, ZONGULDAK - TÜRKİYE

e-mail: mervin34@hotmail.com

sent report includes giant pulmonary bulla in 35-year-old woman. The giant bulla was diagnosed as a TPX in emergency, and chest tube was performed. The differentiation between TPX and a giant bulla may be very difficult. The therapies of these two similar entities are completely different. So that, we must be careful about anamnesis, physical examination and radiology for true diagnosis.

Key Words: Giant bulla, tension pneumothorax, chest tube.

Giant bulla was described by Burke in 1937. It is called giant bulla when the bulla occupies over one-half of the volume of the hemithorax (1). In the chest X-ray (CXR), we observe tension pneumothorax (TPX) as wide radiolucent view and pushing the mediastinal structures contralateral. Also giant bulla may mimic TPX with wide radiolucent view. In literature, patient with giant bulla that causing mediastinal shift is so rare. These two entities are very similar in radiology and clinic. So that doctors may confuse these two diagnoses and wrong treatment may be life-threatening.

CASE REPORT

The presented 35-year-old woman patient was first evaluated in a public hospital due to thyroid disease. The patient had a CXR with wide radiolucent view that occupying the whole of the left hemithorax and caused right mediastinal shift (Figure 1). Then in that hospital's emergency room, tube thoracostomy was performed with the TPX diagnosis. But, they didn't see any



Figure 1. The patient had a chest X-ray with wide radiolucent view that occupying the whole of the left hemithorax and caused right mediastinal shift.

air leak and any change in CXR. After that the patient was sent to our clinic. In the computerized thorax tomography; we saw giant bulla in the left hemithorax, right mediastinal shift and extrapleural thorax tube (Figure 2). After the giant bulla diagnosis, left thoracotomy-bulla resection was performed. In the exploration, we saw the giant bulla having narrow base implantation and sourcing from the lower lobe superior segment. In the post-operative CXR, there was no mediastinal shift and re-expansion of the left lung was observed.

DISCUSSION

TPX is usually seen suddenly after the lung injury. By persistent air leak, lung collapse totally and increasing positive intrapleural pressure causes mediastinal shift. Then, venous return to the heart decreases and both lungs are exposed to compression (2).

Giant bulla is usually seen in patients with chronic obstructive pulmonary disease and especially in patients with bullous emphysema. After the damaging of alveolar tissue integrity, it is seen as air spaces in pulmonary parenchyma. Continuous air entry to bulla with ball-valve mechanism expands the bulla and becomes mediastinal shift (3). TPX and giant bulla are very similar in radiology and clinic, so that emergency physicians may confuse. In differentiation of these diseases anamnesis is very important. In the history of patient with giant bulla, we learn that dyspnea complaint is accelerating in four-five months (4). But pneumothorax occurs by sudden dyspnea, shortness of breath, cough and chest pain. In physical examination; we can't hear any breath sounds on the affected side in total pneumothorax. But in the giant bulla we hear the breath sounds like whisper.

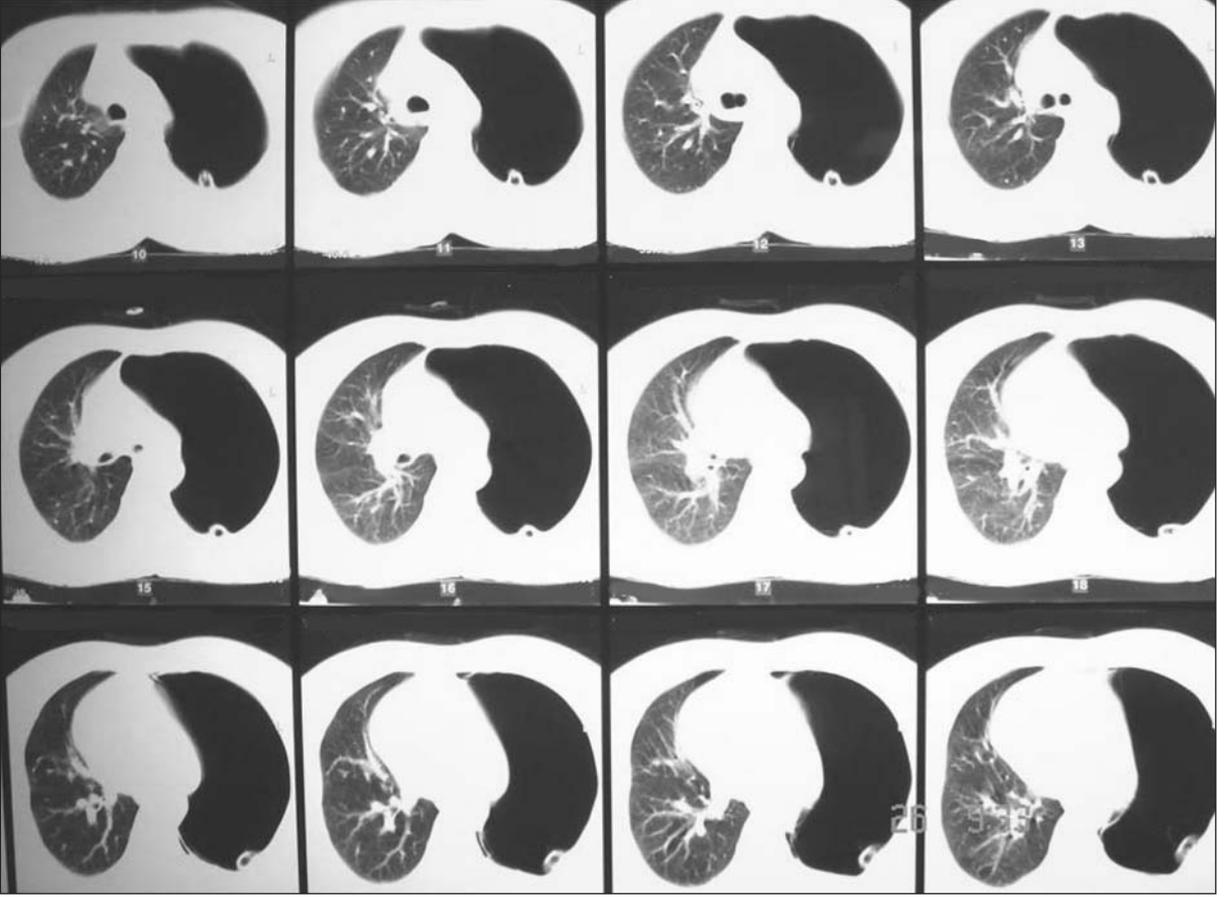


Figure 2. Giant bulla in the left hemithorax, right mediastinal shift and extrapleural thorax tube in the computerized thorax tomography.

In the differentiation, anamnesis and physical examination are may be enough, but it must be confirmed by chest radiographs. But sometimes these radiographs may be interpreted incorrect, like in our case. In these situations computerized tomography may be helpful (5). The CXR of the case is unique than the CXR of the cases presented in the literature. Because, the patient's CXR has a typical presentation very similar to the TPX than bulla. That's why, the public hospital chest surgeon was inserted a chest tube into the thorax. However, patient's history (acute chest pain, dyspnea, clinical deterioration etc.) that must be taken carefully does not confirm the diagnosis of TPX in our case. Even though there are very important technical developments and surgical experience anamnesis is still necessary in this situation.

The therapies of these two similar entities are completely different. TPX is usually treated by urgent tube thoracostomy, but bullous disease is treated by limited pulmonary parenchyma and bulla resection. In the treatment of giant bulla, tube thoracostomy is contraindicated. If we insert thorax tube into the bulla, sudden air drainage and asphyxia originates from bronchopleural fistula may be life-threatening.

Conclusion; we must be careful about anamnesis, physical examination and radiology before performing tube thoracostomy to the patients with TPX.

REFERENCES

1. Burke R. Vanishing lungs: A case report of bullous emphysema. *Radiology* 1937; 28: 367-71.
2. Kupferschmid JP, Carr T, Fonger JD, et al. Chronic tension pneumothorax mimicking tension bulla. *Chest* 1993; 104: 1913-4.
3. Stern EJ, Webb WR, Weinacker A, Muller NL. Idiopathic giant bullous emphysema (vanishing lung syndrome) imaging findings in nine patients. *AJR Am J Roentgenol* 1994; 162: 279-82.
4. Boushy SF, Kohen R, Billig DM, Heiman MJ. Bullous emphysema: Clinical, roentgenologic and physiologic study of 49 patients. *Dis Chest* 1968; 54: 327-34.
5. Phillips GD, Trotman-Dickens B, Hodson ME, Geddes DM. Role of CT in the management of pneumothorax in patients with complex cystic lung disease. *Chest* 1997; 112: 275-8.