# A RARE CAUSE OF RECURRENT PNEUMONIA: MUCOEPIDERMOID CARCINOMA*

## REKÜRREN PNÖMONİNİN NADİR BİR NEDENİ: MUKOEPİDERMOİD KARSİNOM

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**Anahtar sözcükler:** Mucoepidermoid carcinoma; lobectomy; bronchus
**Key words:** Mukoepidermoid karsinom; lobektomi; bronkus

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***SUMMARY***

*Mucoepidermoid carcinoma of the bronchus (MEC) is a tumor of low malignant potential. MEC originates from bronchial glands.MECs are rare tumors with an incidence of 0.1%-0.2% of all lung cancers, occurring mostly in young persons. MEC is histopathologically classified as a low or high grade malignancy. Radiologic manifestations are consisted of solitary nodule, mass or pneumonic consolidation. Therapeutically, low-grade tumors should be completely excised with lobectomy. Sleeve resection provides a more conservative option.In this article. we report a histologically proven case of a MEC in a 29-year-old man that was detected by chest computed tomography during medical therapy for pneumonia. The right upper sleeve lobectomy was performed. His postoperative recovery was uneventful. We aimed to present because of the rarity.*

***ÖZET***

*Bronşial kaynaklı mukoepidermoid karsinom (MEK), malignite potanesiyeli düşük bir tümördür. MEK, bronşial glandlardan köken alırlar. Mukoepidermoid karsinomlar nadir görülürler ve tüm akciğer kanserleri içerisinde %0.1-0.2 oranında görülen nadir tümörlerdir. MEK, histopatolojik olarak düşük veya yüksek grade olarak sınıflandırılır. Radyolojik bulguları soliter nodül, kitle veya pnömonik konsolidasyondur. Daha çok genç yaştaki insanlarda görülür. Tedavide, düşük gradeli tümörler lobektomi ile tedavi edilmelidir. Sleeve rezeksiyon gibi tedaviler, daha konservatif bir seçenektir. Bu makalede biz, pnömoni tedavisi sırasında çekilen bilgisayarlı tomografi ile tesbit edilen 29 yaşında mukoepidermoid kanserli hastayı sunuyoruz. Hastaya sağ sleeve lobektomi uyguladık. Postoperatif dönemi sorunsuzdu. Nadir görülmesi nedeniyle bu olguyu sunmayı amaçladık.*

## INTRODUCTION

Mucoepidermoid carcinoma of the bronchus (MEC) is a tumor of low malignant potential. MEC originates from bronchial glands (1). MECs are rare tumors with an incidence of 0.1%-0.2% of all lung cancers, occurring mostly in young persons. (3) 1. They were fi rst reported in 1952 by Smetana et al. (2). It can be divided into low-grade or high-grade variants by its growth characteristics and histological features (3). Low-grade tumors include a higher proportion of mucous cells and high-grade tumors include more squamous cells, mitoses and necrosis (4). Herein, we describe a case of mucoepidermoid carcinom of right upper lobe in a 29-year-old man detected by chest chest computed tomography during treatment of pneumonia.

## CASE REPORT

Our patient was a 29-year-old man with a history of recurrent pneumonia attacks who had a medical therapy for five years. During treatment of pneumonia, chest computed tomography revealed a endobronchial mass in the rihgt upper lobe (Figure 1). The patient was then referred to our clinic for surgical consultation, with a presumptive diagnosis of bronchial carcinoma.

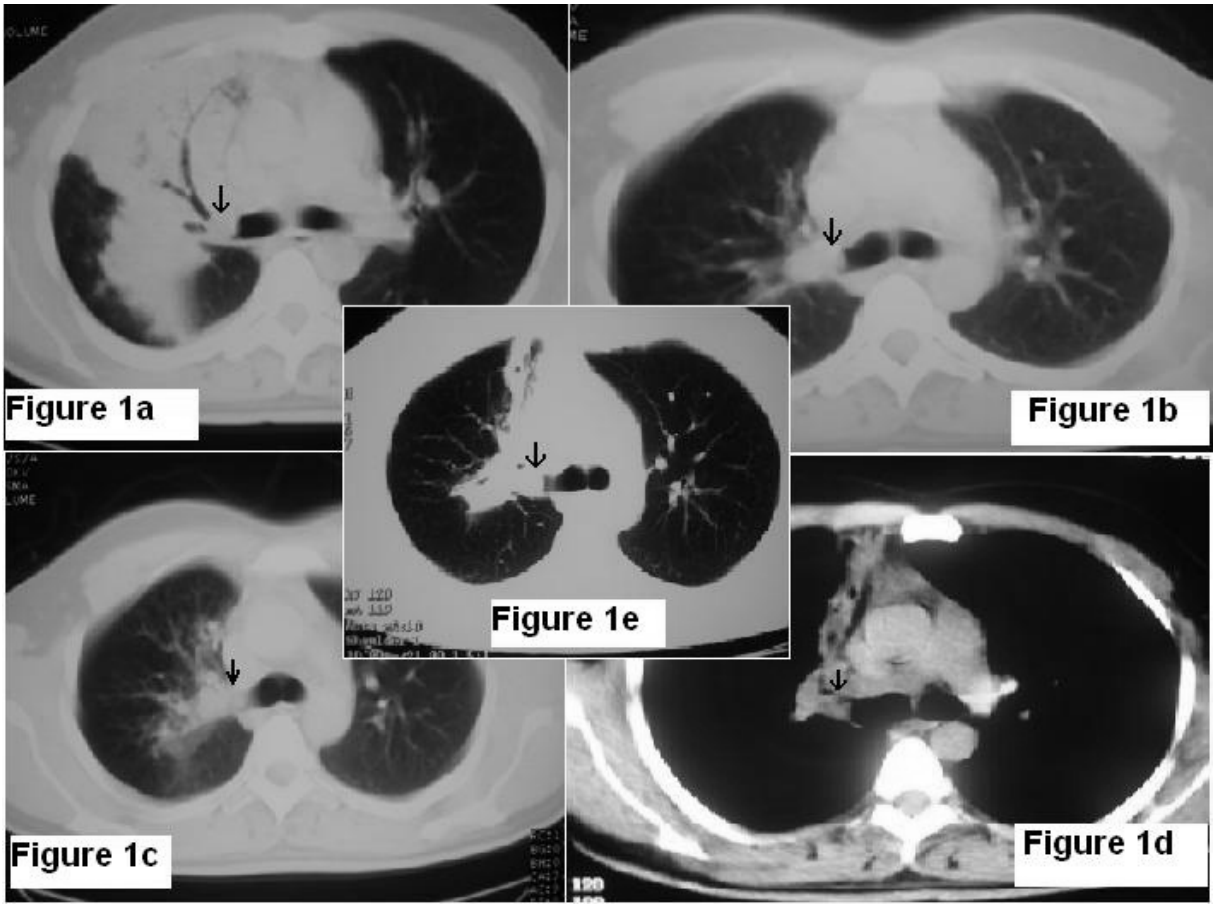


**Figure 1a-e.** Tomographies in the last five years, the endobronchial mass in the rihgt upper lobe (arrows).

On physical examination, the patient's chest was clear on percussion, but significant ralles the was noted on the auscultation. The fiber-optic bronchoscopy was performed and the endobronchial mass was seen in the right upper lobe bronchus. The multiple biopsies were taken. Pathologic examination confirmed the diagnosis of low- grade MEC. In the Immunohistochemical staining of the neoplastic cells, CK 7 was positive, TTF-1 were negative. Ki-67 proliferation index was low (1-2%). The musikarmin staining revealed the pink-red color in the mucin (figure 2).

On the FDG-PET-CT, the standart uptake value of mass and mediastinal lymp nodes were 2.62 and 2.52, respectively. There was no metastasis. The patient was prepared for surgery. Right posterolateral thoracotomy was performed. The upper sleeve lobectomy and lympadenectomy were performed (Figure 3). Pathologic stage of the tumor was T1aN0M0 (stage 1A). His postoperative recovery was uneventful.

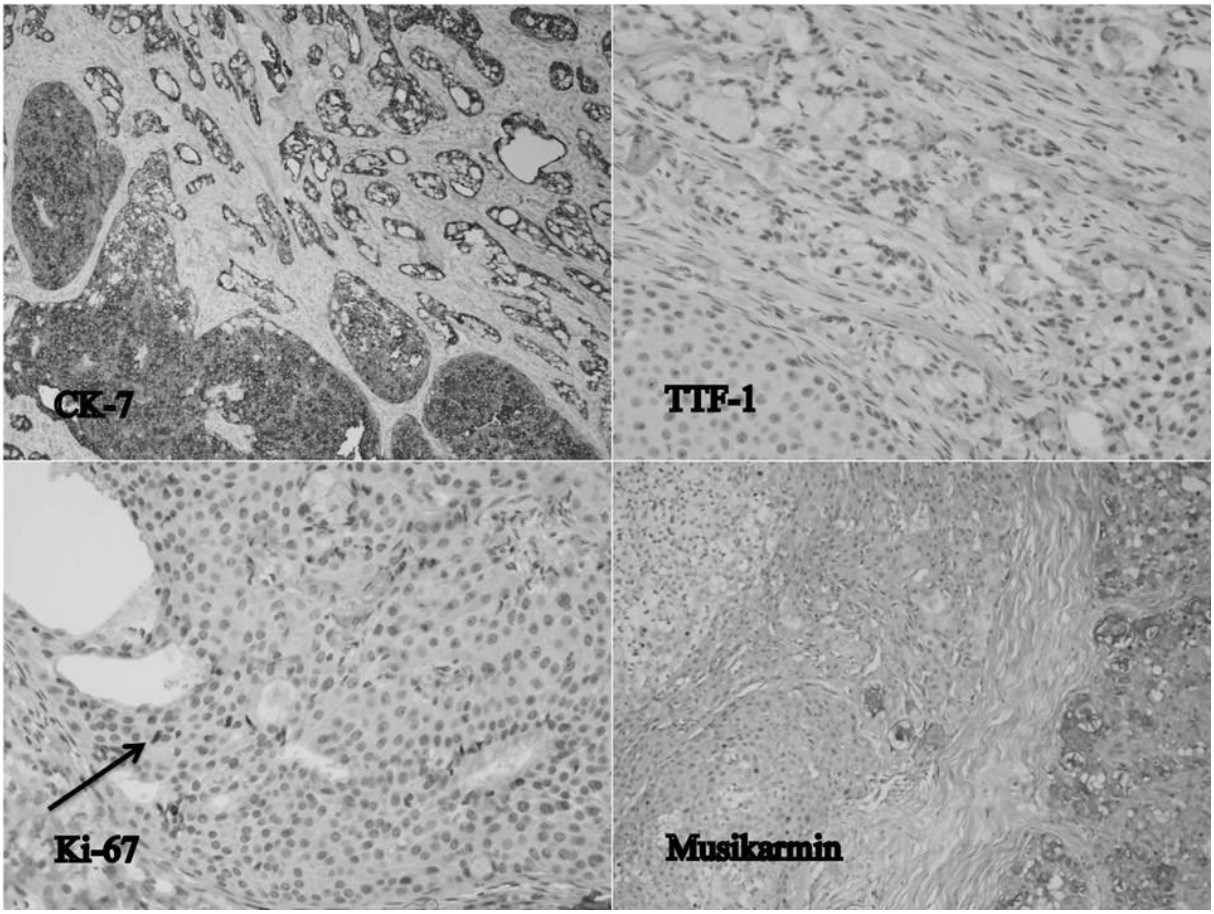


**Figure 2.** In the Immunohistochemical staining of the neoplastic cells, CK 7 was positive, TTF-1 were negative. Ki-67 proliferation index was low (1-2%). The musikarmin staining revealed the pink-red color in the mucin

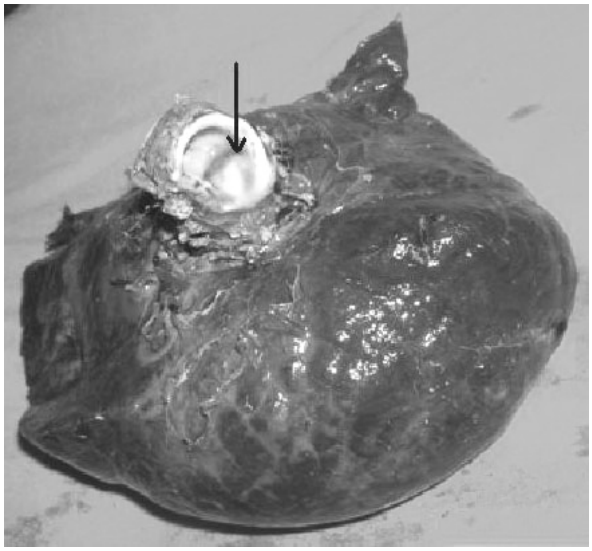

**Figure 3.** The right upper lobe and endobronchial mass (arrow).

## DISCUSSION

MEC is a malignant tumor of bronchial gland origin first described by Smetana in 1952 [5-12], This tumor has been reported to occur in relatively young persons as compared with most other lung cancers (5). MEC generally occurs in the central bronchial region as main bronchus and lobar bronchus, many of these tumors are detected based on symptoms such as coughing, sputum, hemopthysis and fever associated with obstructive pneumonia. It has been reported that patient with mucoepidermoid carcinoma range in age from 4 to 78 years, but nearly half are younger than 30 years (6,7).

In this case report, the 29-year-old man presented with low-grade mucoepidermoid carcinom. The histopathological diagnosis was proven by means of bronchoscopy. He had medical therapy due to recurrent pneumonia attacs for several years. The mass was in the upper lobe bronchus. These informations were appropriate for literature.

Surgical intervention is the treatment of choice for patients with MECs. Anatomical resection with lobectomy and mediastinal lymph node dissection is efficient and simple. Patients with central lesions might require more aggressive approaches, such as sleeve resection or pneumonectomy (8). But pneumonectomy is not recommended in children, since kyphoscoliosis is a not infrequent compliation (9). Postoperative chemotherapy is not suggested for patients with low-grade MECs. Adjuvant chemotherapy or radiotherapy for patients with incomplete resection or advanced disease is contoversial.

In conclusion, MEC of the bronchus is a rare and they usually presents with obstructive symptoms. The clinician must be alert to persistent pneumonia, coughing and tumor obstruction on image studies. Bronchoscopy is necessary for histopathological diagnosis. Surgical resection is the treatment of choice for all low-grade tumors without distant metastases. A paranchym saving resection as a sleeve lobectomy is preferred if the histopathologic diagnosis can be proven before surgery. The roles of chemotherapy, radiotherapy are controversial. Histological grade, tumor staging and total tumor resection are most important prognostic factors.

**REFERENCES**


1. Kitada M, Matsuda Y, Sato K, Hayashi S, Ishibashi K, Miyokawa N, Sasajima T. Mucoepidermoid carcinoma of the lung: a case report. Journal of Cardiothoracic Surgery 2011;6:132
2. Smetana HF, Iverson L, Swan LL: Bronchogenic carcinoma; an analysis of 100 autopsy cases. Mil Surg 1952;111:335-351
3. Klacsmann PG, Olson JL, Eggleston JC: Mucoepidermoid carcinoma of the bronchus: An electron microscopic study of the low grade and the high grade variants. Cancer 1979; 43:1720-1733.
4. Huang HK, Cheng YL, Chang H, Tzao C, Lee SC. Mucoepidermoid Carcinoma of the Lung. J Med Sci 2009; 29(6): 305-308
5. Yousem SA, Hochholzer L: Mucoepidermoid tumors of the lung. Cancer 1987, 60:1346-1352.
6. Kim TS, Lee KS, Han J, Im JG, Soe JB, Kim JS, Kim HY, Han SW. Mucoepidermoid carcinoma of the tracheobronchial tree: radiographic and CT findings in 12 patients. Radiology 1999: 212; 643-648
7. Yousem SA, Hocholzer L. Mucoepidermoid tumors of the lung. Cancer 1987;60:1346-1352
8. Heitmiller RF, Mathisen DJ, Ferry JA, Mark EJ, Grillo HC: Mucoepidermoid lung tumors. Ann Thorac Surg 1989; 47: 394-399
9. Lack EE, Hams GBC, Erakles AJ, Vawter CF. Primary bronchial tumors in childhood. Cancer 1983; 5 1:494-497.



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