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A Rare Cause of Dyspnea in a Patient with Multiple Myeloma: Tracheobronchial Amyloidosis

Multipl Miyeloma Hastasında Dispnenin Nadir Bir Nedeni: Trakeobronşiyal Amiloidoz

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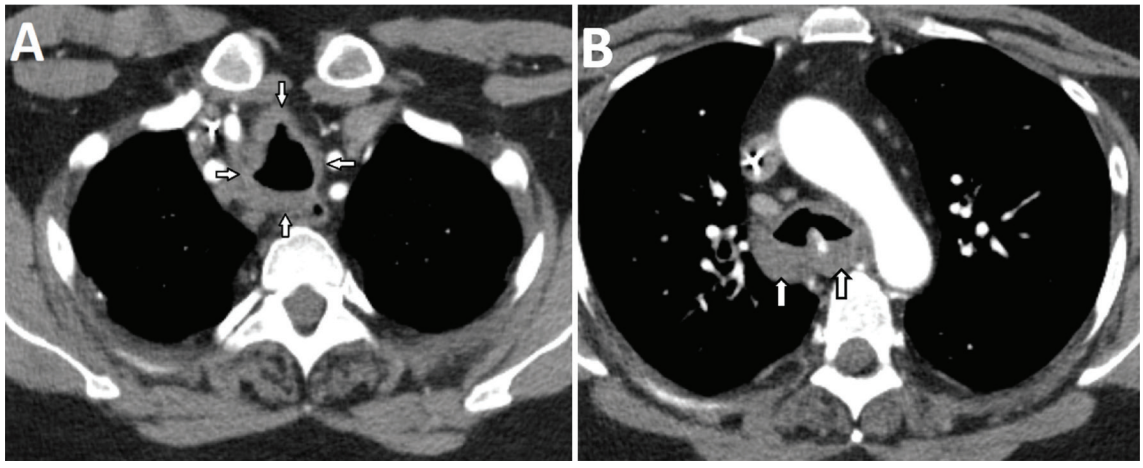

Figure 1. Axial chest computed tomography images at the levels of (A) the thoracic inlet and (B) the carina demonstrate irregular, circumferential thickening of the tracheal wall, including the membranous portion (arrows).

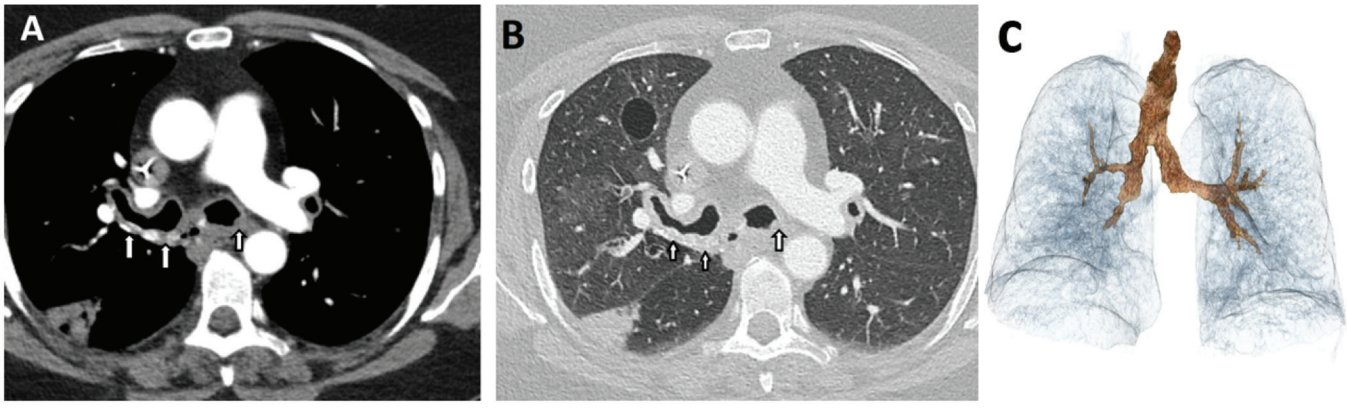

Figure 2. Axial chest computed tomography images at the main bronchi level using (A) mediastinum and (B) lung window settings reveal irregular, nodular thickening of the bronchial walls along with submucosal calcifications (arrows). Note the right pulmonary thin-walled cyst, likely reflecting pulmonary involvement. (C) Three-dimensional volume-rendered chest computed tomography image reveals luminal irregularities along the large airways (arrows).

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A 39-year-old woman with a 2-year history of multiple myeloma (IgG kappa isotype), currently in remission, presented with progressive dyspnea over a few months. At the time of multiple myeloma diagnosis, a bone marrow biopsy confirmed the presence of amyloid deposits with Congo red staining. Her treatment regimen included chemotherapy and ongoing therapy with lenalidomide and dexamethasone, resulting in a very good partial response, with dosage adjustments based on disease activity and symptomatology. Physical examination revealed upper airway wheezing and tracheal tugging, and chest computed tomography (CT) revealed irregular, circumferential thickening of the tracheal and bronchial walls with accompanying submucosal calcifications (Figures 1 and 2, and Movie). The patient exhibited no signs of systemic amyloidosis such as elevated pro-brain natriuretic peptide levels or albuminuria. A bronchoscopic biopsy and histopathological examination of the biopsy specimens confirmed the diagnosis of amyloid light-chain amyloidosis. Although secondary AA amyloidosis may also rarely involve the tracheobronchial tree, it was ruled out in this case.

Tracheobronchial amyloidosis (TBA) is characterized by amyloid proteins deposited in the trachea and bronchi, leading to thickening and narrowing [1]. The clinical findings of TBA are non-specific, and TBA usually does not accompany systemic amyloidosis or affect the lung tissue. Chest CT is vital in diagnosing and assessing the extent of TBA. The CT findings of TBA include the thickening of the tracheal and bronchial walls, which can often include calcification. Additionally, nodular lesions may occasionally be visible along the airways, representing localized amyloid deposits, as in the present case [2]. This detailed visualization helps accurately diagnose the condition and guide therapeutic interventions [1,2]. Despite multiple bronchoscopic interventions, managing airway problems remains a significant challenge, often with recurrent issues.

Keywords: Multiple myeloma, Lung, Dyspnea, Amyloidosis, Computed tomography

Anahtar Sözcükler: Multipl miyelom, Akciğer, Dispne, Amiloidoz, Bilgisayarlı tomografi

Ethics

Informed Consent: Obtained from the patient.

Footnotes

Authorship Contributions

Concept: F.U., İ.O.; Design: F.U.; Data Collection or Processing: F.U.; Analysis or Interpretation: F.U.; Literature Search: F.U., İ.O.; Writing: F.U., İ.O.

Conflict of Interest: No conflict of interest was declared by the authors.

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https://youtu.be/JCpR5T-_1J4

Movie. Recording of the volume-rendered three-dimensional reconstruction chest computed tomography image demonstrates circumferential luminal irregularities along the large airways.