

# Interstitial pneumonitis caused by docetaxel

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## Abstract

This clinical case presents a 60-year-old woman with stage IIIA invasive ductal breast carcinoma. The hormone receptors and Her2 were positive. After two cycles of docetaxel, the patient suddenly developed fever, dry cough, and dyspnea on minor exertion. The patient required non-invasive oxygen. The images, the bacteriological and viral tests negative, the bronchoalveolar lavage and the positive response to the use of corticosteroids in high-doses were compatible with the diagnosis of interstitial pneumonitis caused by docetaxel. Transbronchial biopsy confirmed the diagnosis. Taxanes-induced pneumonitis is rare. It is mediated by type I and type IV hypersensitivity, has high mortality, and requires early initiation of high-dose corticosteroids. The diagnosis requires a high index of suspicion. However, it is a diagnosis of exclusion. The purpose of this article is to review this rare complication due to taxanes because these drugs are frequently used in clinical oncology.

## Clinical case description

This clinical case presents a 60-year-old woman with stage IIIA invasive ductal breast carcinoma with hormone receptors and Her2 positive. We initiated neoadjuvant therapy with pertuzumab, trastuzumab and docetaxel. After two cycles of chemotherapy, the patient suddenly developed fever, dry cough, and dyspnea on minor exertion. The patient required non-invasive oxygen. The chest scan revealed bilateral opacities with patchy ground-glass areas (Figures 1 & 2). We started empiric broad-spectrum antibiotics to cover the probable infectious etiology and prednisone 1 mg/kg/day orally because we suspected acute pneumonitis caused by docetaxel. In addition, we requested tests to make the differential diagnosis. In this regard, the echocardiogram ruled out heart failure. The viral and bacterial tests by polymerase chain reaction were negative (the sample was obtained by nasal aspirate). The bronchial aspirate, the serology for respiratory viruses and atypical bacteria, and the determination of antigen for legionella and streptococcus pneumoniae were negative. Bronchoalveolar lavage showed lymphocytosis with inversion of the CD4/CD8 ratio. Transbronchial biopsy confirmed pneumonitis mediated by mononuclear

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cells. The patient recovered without functional sequelae within ten days. The patient continued her therapy without receiving docetaxel again. Two years later, the patient is receiving letrozole and has not had a relapse of her neoplasia. Chest scan shows scarring peripheral fibrotic lesions (Figures 3 & 4).

## Discussion

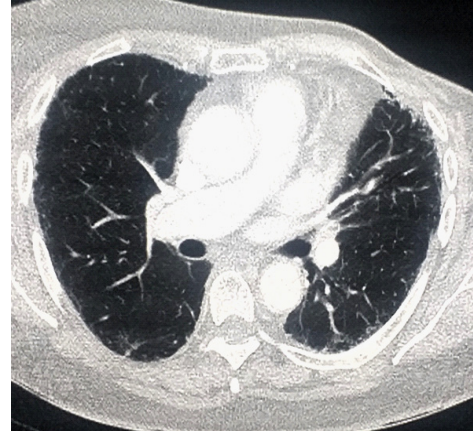
Taxanes-induced pneumonitis is rare. It is mediated by type I and type IV hypersensitivity, has high mortality, and requires early initiation of high-dose corticosteroids [1]. The diagnosis requires a high index of suspicion. However, it is a diagnosis of exclusion. In this regard, a differential diagnosis should be made with heart failure, infection by atypical viruses and bacteria, and carcinomatous lymphangitis. Due to the use of docetaxel is frequent in oncology, oncologist should have expertise in the management of this adverse reaction.

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**Conflict of interest:** The authors declare that they have no conflicts of interest.



**Figure 1:** Chest scan: Bilateral ground glass pattern (cross-section).



**Figure 3:** Chest scan: Scarring peripheral fibrotic lesions (cross-section).



**Figure 2:** Chest scan: Bilateral ground glass pattern (coronal section).



**Figure 4:** Chest scan: Scarring peripheral fibrotic lesions (coronal section).

### References

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