

## Afatinib Associated Papulopustular Phototoxic Eruptions: A Novel Case Report

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<http://dx.doi.org/10.13005/bpj/1808>

(Received: 27 July 2019; accepted: 30 October 2019)

Non Small Cell Lung Cancer(NSCLC) is the most common type of Lung Cancer. It is characterized by multiple mutations, the commonest being the EGFR and KRAS. Afatinib is an immaculate drug used in Non-Small Cell Lung Cancer, with EGFR mutations. Here we are presenting a case of a 70 year old male, with Non-Small Cell Lung Carcinoma, started on Afatinib, who subsequently developed multiple raised skin lesions over the face, neck and the upper chest. On examination, multiple crusted papules and pustules over the face and anterior chest were present. A diagnosis of Photo distributed Acneiform Eruption secondary to Afatinib was made. Patient was treated appropriately and lesions subsided with post inflammatory hyperpigmentation. This article highlights the characteristic Afatinib induced papulo – pustular eruptions, which eventually responded to treatment.

**Keywords:** Afatinib; EGFR Mutations; Non Small Cell Lung Carcinoma;  
Phototoxic Eruptions; Rarely Reported; Responded to Treatment.

Non Small Cell Lung Cancer(NSCLC) is the most common type of Lung Cancer, accounting for 85 % of all cases of lung Cancer<sup>1</sup>. NSCLC is characterized by multiple mutations, most commonly the EGFR -Epidermal Growth Factor Receptor mutation, followed by missense mutation of KRAS ( Kirsten Rat Sarcoma ) gene and ALK ( Anaplastic Lymphoma Receptor Kinase ) gene mutations. Afatinib is an irreversible, multi-receptor inhibitor used in patients with Non-Small Cell Lung Cancer, who demonstrate EGFR mutations consisting of exon 19 deletion or exon 21 substitution<sup>2</sup>.

Various side effects and complications have been associated with Afatinib use namely

Vomiting, Diarrhoea , Fatigue, loss of appetite and Skin rash<sup>3</sup>. Cutaneous toxicity is the second most commonly reported side effect of the drug, the first being chronic diarrhoea<sup>4</sup>. A case of Drug induced fatal Pneumonitis has also been reported following First Generation EGFR-TKI Inhibitors<sup>5</sup>. Here we present a case of a 70 year old male, with inoperable Non-Small Cell Lung Carcinoma, started on Afatinib, who developed multiple raised skin lesions over the face , neck and the upper chest , following start of Afatinib.

### Case Report

A 70 year old man, diagnosed with Stage IV Non-Small Cell-Adenocarcinoma of Lung with Broncho-Alveolar pattern. PET-CT whole Body



Fig. 1a.



Fig. 1b.

showed a lesion of size 5.5\*6.5\*5.4 cm in the right middle lobe along with enlarged Sub- Carinal, Posterior Diaphragmatic and Right Inguinal Lymph Nodes. Genetic analysis showed medgenome Exon 20 Mutation. Patient was started on Tablet Afatinib 400mg OD for 15 days, following which patient developed multiple crusted papules and pustules over the face, involving the forehead, nose, both the cheeks and sparing the peri-orbital and the peri-oral areas(Figure 1.a). Similar lesions were made out over anterior aspect of upper chest .Well defined erosions were seen over the dorsum and undersurface of the tongue .A Diagnosis of Photo distributed Acneiform Eruption secondary to Afatinib was made. Patient was treated with Systemic Antifungals, a short course of oral steroids and Tab.Doxycycline along with topical sunscreen. The patient's lesion started resolving and eventually started to disappear with post Inflammatory hyperpigmentation(Figure 1.b)

### DISCUSSION

Non Small Cell Lung Cancer constitute 85% of all the Lung Carcinomas. Depending on the staging , patients are eligible for various treatment options ranging from radiation to chemotherapy as well as targeted therapies. EGFR inhibitors have been incorporated into the management of solid tumors. Recently, Afatinib (EGFR inhibitor) was approved for the management of Non-Small Cell Lung Carcinoma. Afatinib belongs to the Tyrosine Kinase Inhibitor family of medications.

EGFR Inhibitors are associated with numerous adverse events including a papulopustular (acneiform) eruption, paronychia, pruritis, hypertrichosis and xerosis<sup>2</sup>. On literature review only few cases of Afatinib induced skin eruptions were reported.

This article highlights Afatinib induced Papulo – pustular eruptions, which eventually responded to treatment. It has been postulated that severe the reactions to the drug, better is the response of the underlying carcinoma to the drug, according to various reports. Hence, supplemental systemic and topical treatments can be initiated to palliate the severity of adverse skin events, in order to enable adequate duration of treatment with Afatinib for chemotherapeutic success.

### ACKNOWLEDGEMENT

Informed consent was taken from the patient to be a part of this study

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