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Case Report

ACANTHOSIS NIGRICANS IN A PATIENT WITH ADENOCARCINOMA LUNG: A CASE REPORT

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ABSTARCT
Acanthosis nigricans is a skin condition characterised by dark,thick,velvety skin in body folds and creases, sometimes palms or soles of feet. This condition can be benign or associated with internal malignancies as paraneoplastic. With this case report we present rare association of Adenocarcinoma lung and acanthosis nigricans. Presence of adult onset acanthosis nigricans alone can predict presence of internal malignancy.

Keywords: *Adenocarcinoma Lung, Acanthosis Nigricans, Adult Onset*

INTRODUCTION

Acanthosis Nigricans is a skin condition characterized by dark, thick, velvety skin in body folds and creases typically in arm pits, groin and neck. Sometimes the lips, palms or soles of the feet are affected as well.

Condition was firstly described by Pollitzer (Kaminska-Winciorek *et al.*, 2007). It appears in many systemic disorders and endocrinopathies, certain medications such as human growth hormone, oral contraceptives and large doses of niacin, in the course of internal malignancies. Interestingly adult onset acanthosis nigricans are almost always paraneoplastic associated with internal malignancies (Mukherjee *et al.*, 2011)

With this case report, we aim to present a rare case of concomitant lung cancer and acanthosis nigricans.

CASES

A 53 year male patient who presented to Pulmonology Outpatient department of our hospital with complaints of -

- Non productive Cough
- Shortness of breath; exacerbating with effort for past 1 month.
- Fever on & off
- Decreased appetite
- Weight Loss (10 kg over 1 ½ months)
- Patient is known hypertensive on treatment.
- Our patient also had discoloration of the skin that he first observed 1 ½ month ago on palms and spread over the soles.
- Patient is a cigarette smoker, 40 pack years.
- Physical examination revealed the following values:
- Blood pressure – 110/ 70 mm Hg.
- Respiratory rate – 16 breaths / min
- Temperature – 36.5 °C
- Clubbing present
- Auscultation of the respiratory tract revealed -

Decreased breath sounds over right mammary area with dull note.
No Bronchial breathing.

- Findings of other system examination were normal
- Dermatologist opinion for skin lesions was hyper pigmented velvety plaques over the palms, nails and soles.

Case Report

- No scaling and no pitting ,suggestive of Acanthosis Palmaris

Laboratory Investigations

Hb – 11 gm % ESR – 16mm at the end of 1 hr

HRCT Thorax

- Non homogenous fibro nodular and fibro cavitatory opacities are seen in bilateral upper and right middle lobe of the lung.
- Well defined rounded opacities seen in the right middle lobe.

Bronchoscopy revealed no endo-bronchial lesion.

Transthoracic Fine needle aspiration cytological examination of mass showed -Adenocarcinoma of the Lung.

Positron Emission Tomography Scan

- Showed soft tissue mass in the middle lobe of right lung abutting the major and minor fissures and right main pulmonary artery.
- Metastatic ipsilateral Mediastinal adenopathy

No active disease elsewhere in the body.

Treatment

Chemotherapy constituted-
Inj. Graniset 3mg+ Dexa 8mg+ NS100 ml IV over 1hr
IV NS 500ml + MVI 1amp. Over 2 hrs
Inj. Effcorlin 100mg IV
Inj. Pemetrex 750 mg+ NS 100ml IV over 20 min
Inj. CarboKem 560mg + NS 500 ml IV over 1 hr
Iv DNS 1 pint over 2 hrs

Patient received 3 cycles of chemotherapy up till now, better symptomatically and his hyper pigmentation over palms and soles has decreased.

Figure 1: Palms Showing Acanthosis Nigricans

Figure 2: CXR: Right Middle Lobe Mass

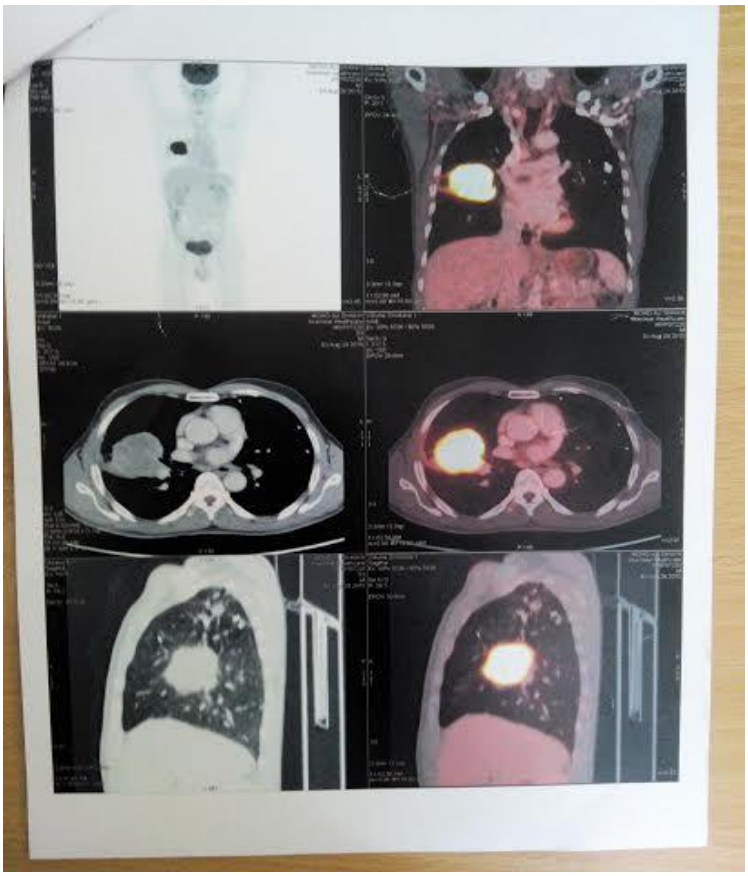

Figure 3: PET Scan

Figure 4: Acanthosis Nigricans Reduced with Treatment

DISCUSSION

There are no pathognomonic pathological findings for lung cancer however; some skin lesions should suggest lung cancer in differential diagnosis. Acanthosis nigricans is one such lesion. Acanthosis nigricans may be benign or malignant. Benign form observed in association with conditions that increase insulin levels such as type 2 diabetes, in some cases it is inherited, and certain medications. Benign types sometimes described as pseudo acanthosis nigricans and are much more common (Weisman and Graham, 2004).

Malignant acanthosis nigricans accounts for 20% of all acanthosis nigricans cases. It develops as a result of expression of the transforming growth factor alpha (TGF alpha) of tumor cells, melanocyte stimulating hormone alpha, and peptides released by tumors causing cellular proliferation including growth factor 1. It can be associated with melanocyte producing hormone as ectopic hormone production in malignancy (Udwadia *et al.*, 2011).

Of the malignancies accompanying malignant acanthosis nigricans in the adult population 45-69% are gastric adenocarcinomas. It is observed with a frequency of 70-90% of all abdominal neoplasms (Serap *et al*., 2010). Approximately 9% of all malignant acanthosis nigricans cases are related with extra abdominal malignancies such as endometrial lymphoma, melanoma and sarcomas. Co-occurence of malignant acanthosis nigricans and lung cancer is rare. To date 8 cases of adenocarcinoma of the lung and five cases of squamous carcinoma of lung have been reported with acanthosis nigricans. It alone may predict malignancy. Tumors are often in the advanced phase at the time of diagnosis. There is no specific treatment for acanthosis nigricans. Skin lesions usually regress with the treatment of underlying malignancy.

In our case chemotherapy of adenocarcinoma of lung has shown regression of acanthosis nigricans.

Conclusion

New Occurence of acanthosis nigricans should raise the suspicion of malignancy as 1st differential diagnosis in adults. PARANEOPLASTIC TYPE OF ACANTHOSIS NIGRICANS concomitant with lung cancer is a rare condition and shows regression with treatment of underlying lung cancer.

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