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### *Comparison of narrow band imaging to white light bronchoscopy for evaluation of histopathological biopsy*

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#### **Abstract**

**Introduction:** It is difficult to detect precancerous lesions such as dysplasia and carcinoma in situ (CIS) by conventional white light bronchoscopy (WLB). Narrow Band Imaging Bronchoscopy (NBI) has been reported to detect such lesions more readily

**Objective:** The objective of the present study is to characterize the appearance of different airway mucosal lesions under NBI mode and to evaluate the role of NBI compared to WLB in diagnosis of premalignant and malignant lesions.

**Methods:** ٣٠ patients presented with radiological changes to chest department in Fayoum University Hospital. They were subjected to full airway examination by fiberoptic bronchoscopy first under WLB then under NBI. Biopsies were taken from susceptible lesions; pathological interpretation was performed.

**Results:** ١٨ patients (٦٠%) were proved by NBI to have invasive carcinoma compared to ١١ patients (٣٦.٧%) by WLB. ٣ patients (١٠%) were proved by NBI to have severe dysplasia/CIS compared to ٦ patients (٢٠%) by WLB. ٣ patients (١٠%) were proved by NBI to have mild/moderate dysplasia compared to ٤ patients (١٣.٣%) by WLB (p value = ٠.٠٣). The sensitivity of both WLB and NBI (٧٦.٩%) is better than WLB alone or NBI alone (٩.١% and ٥٧.١% respectively) in detecting premalignant lesions while the sensitivity of both WLB and NBI (٥٢.٦%) is less than WLB alone (٥٥.٦%) and better than NBI alone (٢٦.٧%) in detecting malignant lesions.

**Conclusion:** NBI can be used in combination with WLB to improve detection of premalignant lesions. It influences biopsy selection and therapeutic planning.