

Factors affecting patient survival in adenocarcinoma of lung in a developing country

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Introduction: Adenocarcinoma of lung is distinct for being weakly associated with smoking, having better prognosis and increasing in its incidence worldwide. We studied the clinicopathological factors affecting patient survival.

Methods: It was a prospective study, conducted at Gulab Devi Chest Hospital and University of Health Sciences Lahore. It included 56 newly diagnosed, adult patients of invasive pulmonary adenocarcinoma. Clinical history was obtained and biopsy specimen was processed. Microvessel density was determined by immunostaining with CD34. Mast cells were counted in Toluidine blue stained-sections. Mucin was stained with Best's mucicarmine and Alcian blue stains. Patients were followed till death. Kaplan Meier survival curves and Log rank scales were applied to determine the effect of various factors on patient survival.

Results: Mean age of patients was 55.96 ± 1.67 years. Average survival was found to be 6.08 ± 0.32 months. Majority (n=34, 60.7%) of patients were males. History of smoking was present in 29 (51.8%) and a weight loss of greater than 5 Kg in last 3 months was observed in 27 (48.2%), the latter was associated with poor survival ($p = 0.007$). After clinical and radiological assessment, 37 (66.1%) patients were classified as advanced disease (Stage III and IV) and 36 (64.3%) had positive lymph nodes, both were associated with reduced patient survival ($p = 0.004$ and 0.0001 respectively). Only 7 patients underwent surgical resection followed by chemotherapy while other 49 were given only palliative chemotherapy. Histologically 15, 25 and 16 tumours were well, moderately and poorly differentiated however no association was found between histological grading and survival of patients ($p = 0.154$). Histochemically, 15 (26.8%) cases were categorized as mucinous which were associated with significant reduction in patient survival ($p = 0.0001$). Mean mast cell density was 3.27 ± 0.25 mast cells/hpf and mean microvessel density was 13.05 ± 0.78 microvessels/hpf. Only microvessel density was associated with poor survival ($p = 0.020$).

Conclusions: History of weight loss, positive supraclavicular nodes, advanced tumour stage, mucinous nature and high microvessel density reduced the patient survival significantly. Gender, age at presentation, smoking status, histological grade and mast cell density were found to have no impact on patient survival among the patients of pulmonary adenocarcinoma.

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