

# THE CLINICAL SIGNIFICANCE OF HISTOPATHOLOGICAL GRADING ON EARLY STAGE NSCLC

S. Moraitis<sup>1</sup>, P. Hountis<sup>1</sup>, D. Moraitis<sup>2</sup>, M. Chounti<sup>3</sup>, I. Gkiozos<sup>4</sup>, K. Syrigos<sup>4</sup>

<sup>1</sup>Cardiothoracic Surgery Department, Naval and Veterans Hospital of Athens

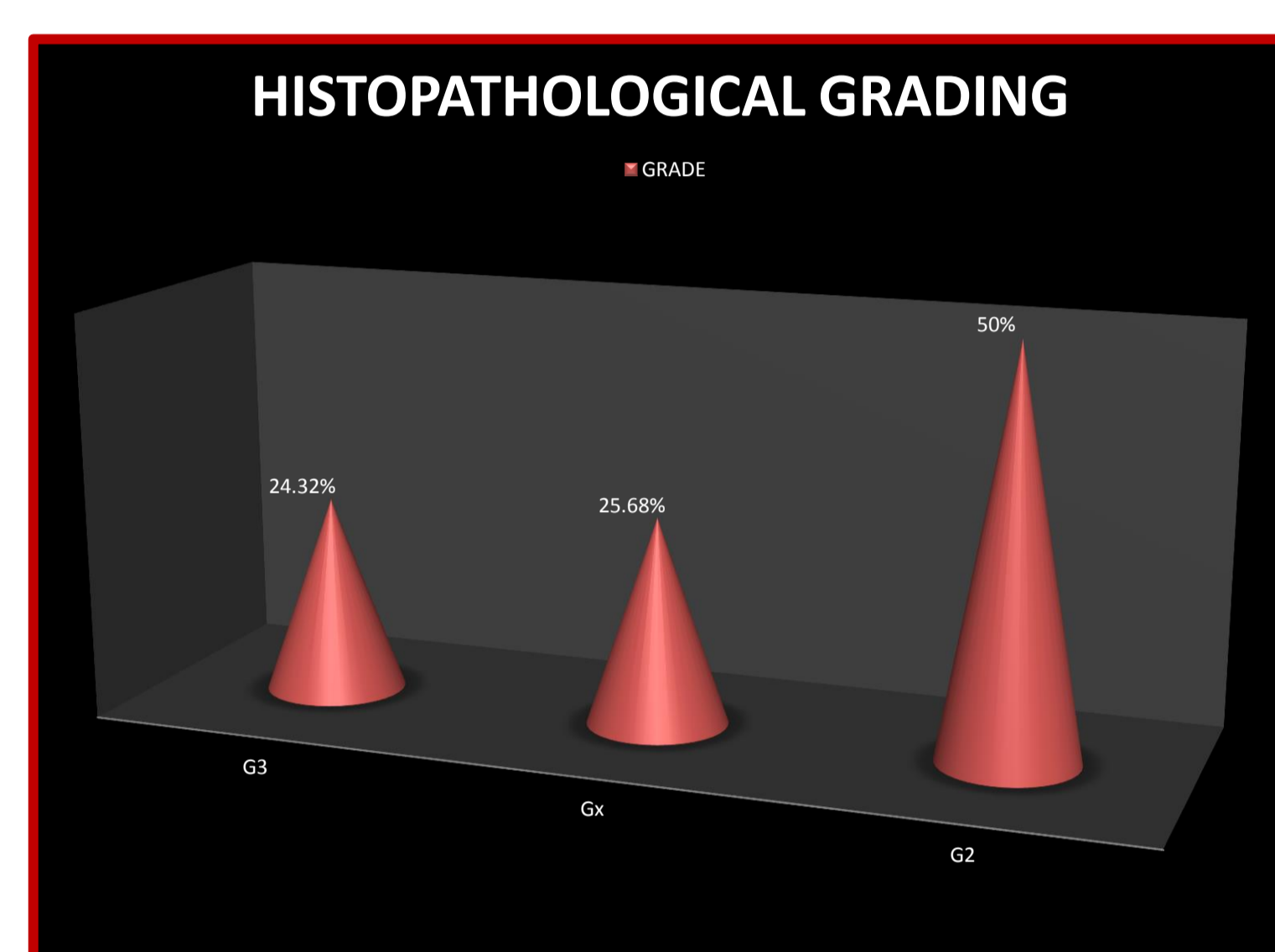
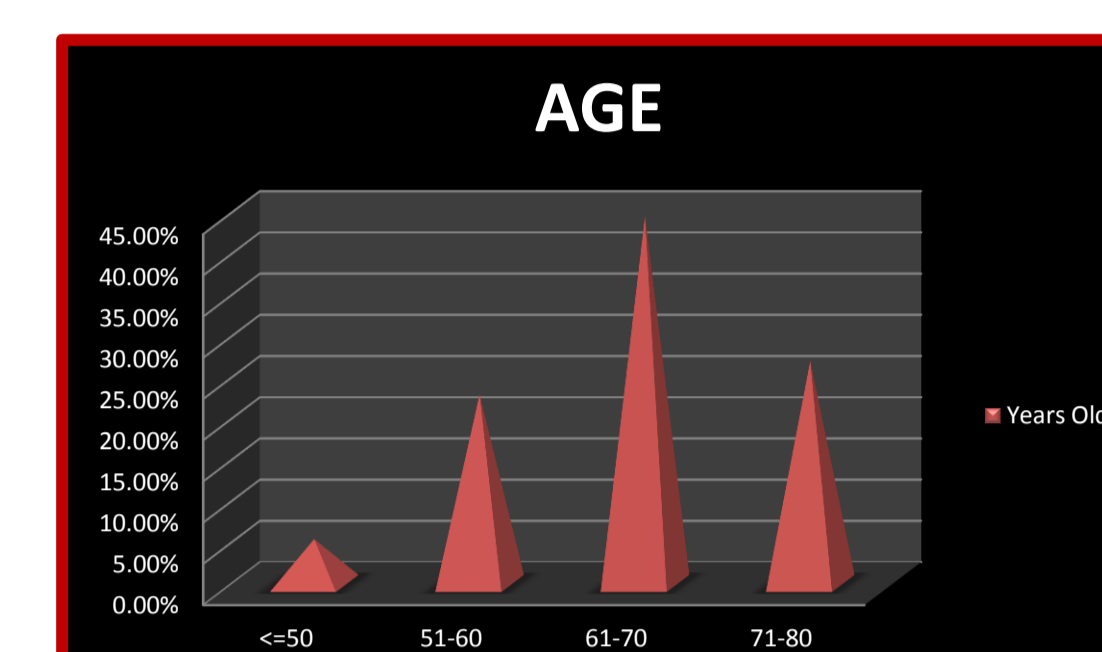
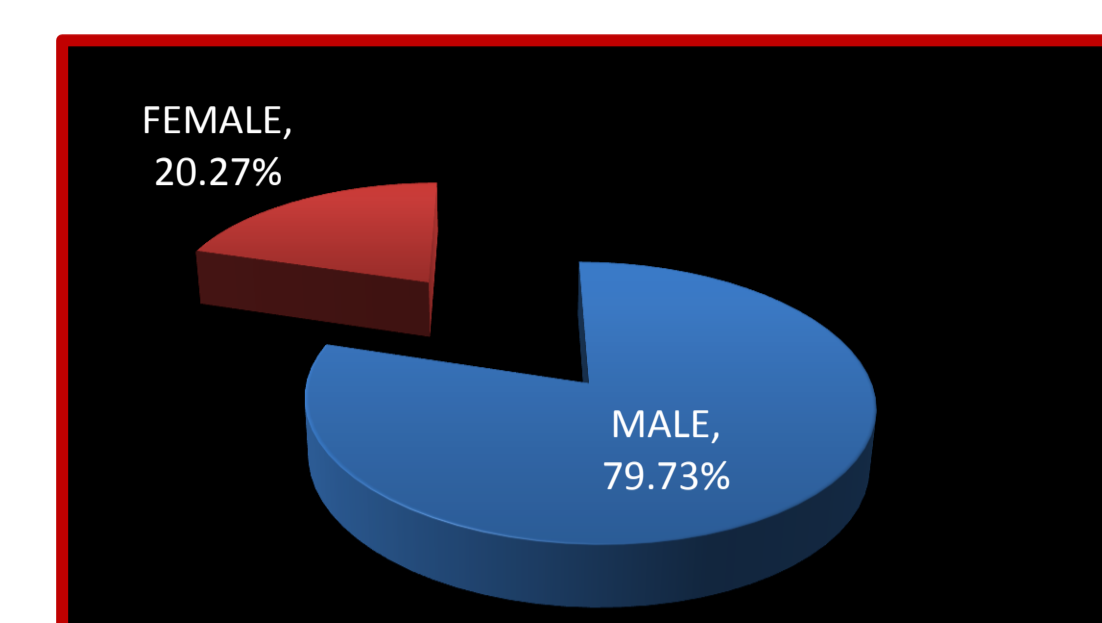
<sup>2</sup>Department of Management and Administration, Naval and Veterans Hospital of Athens

<sup>3</sup>Nursing School, Technological Institute of Patra

<sup>4</sup>Oncology Unit, G'PP, University of Athens' Medical School, "Sotiria" Gen.Hospital, Athens

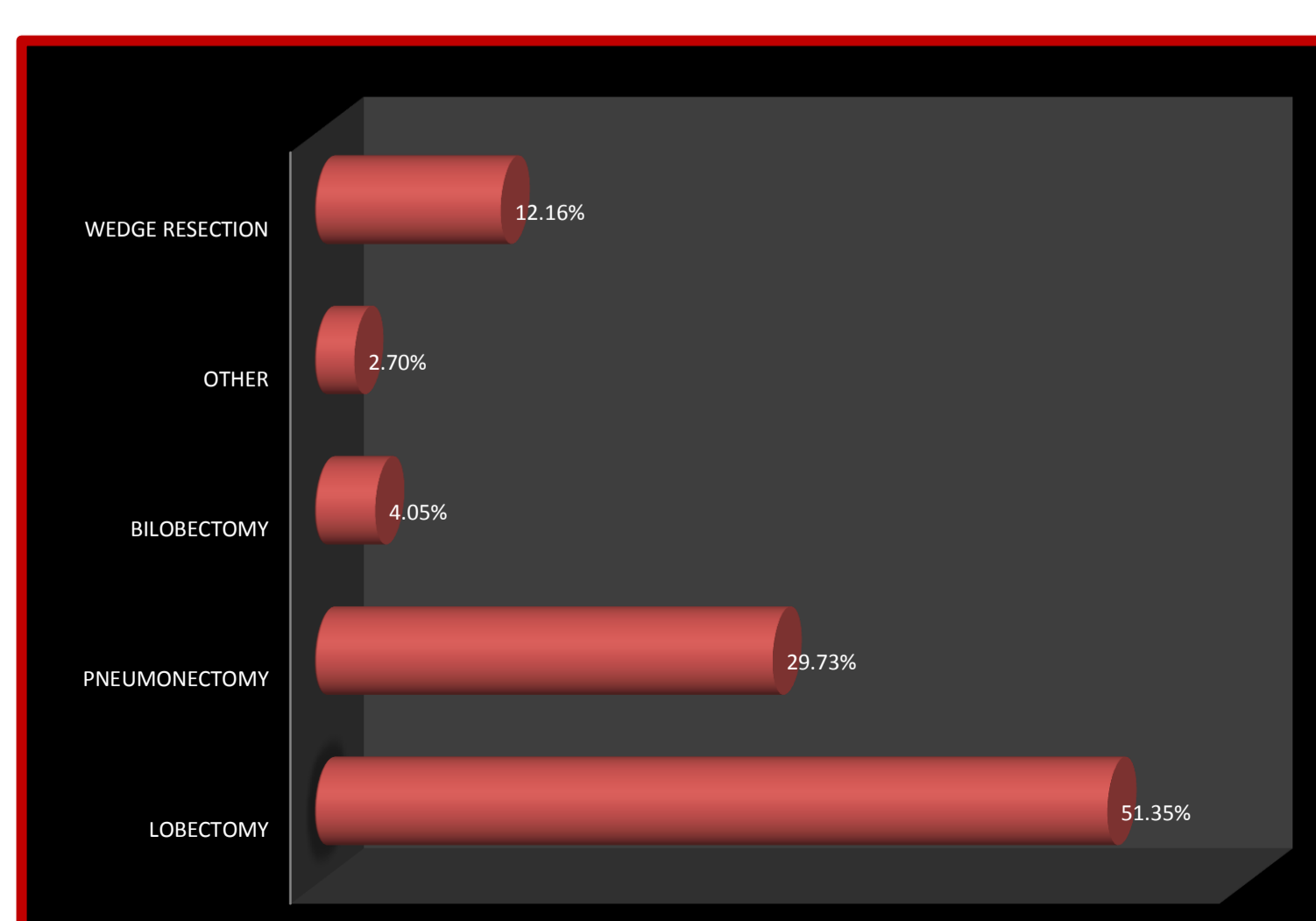
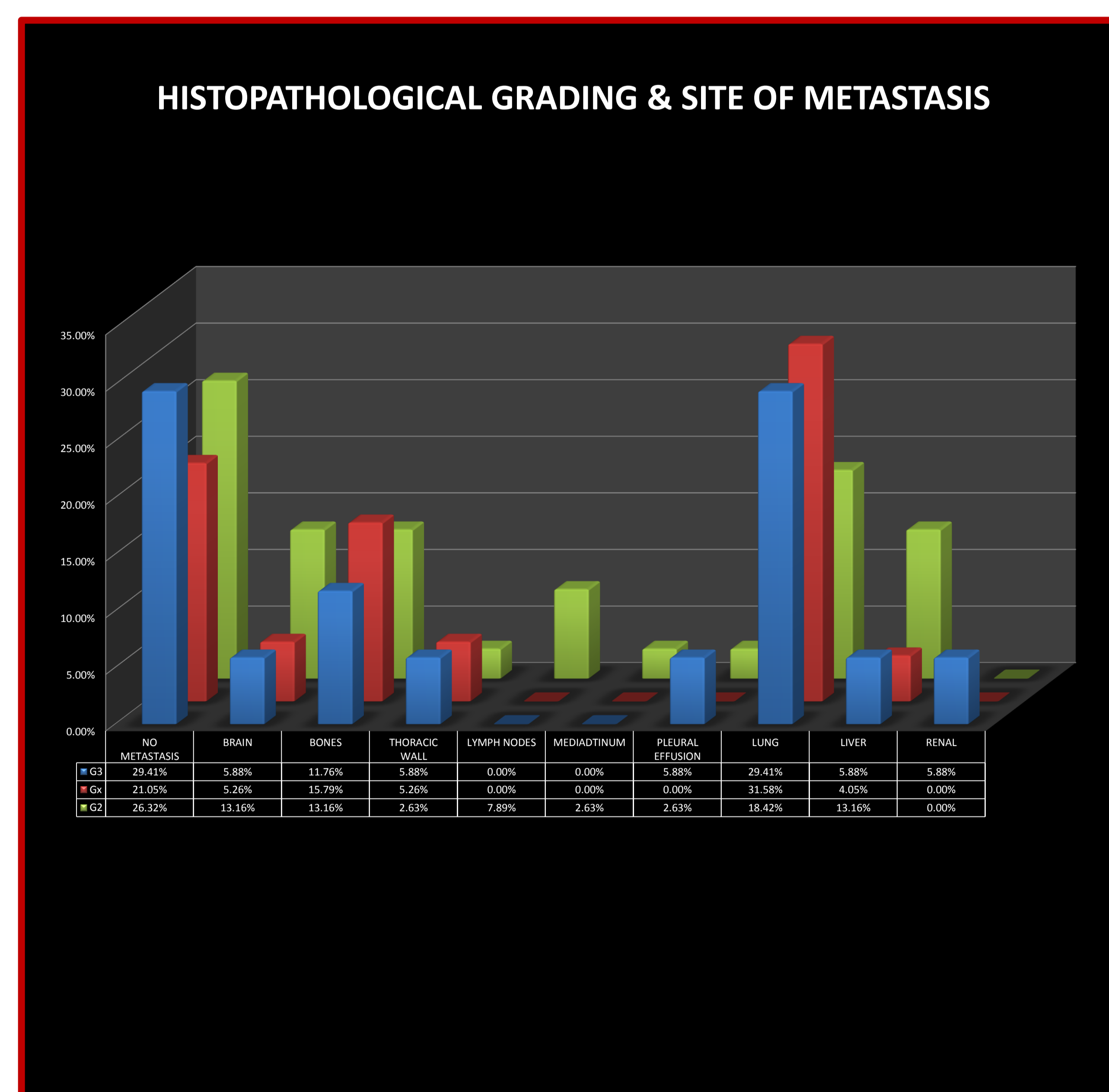


**AIM:** Histopathological grading is known to have a major impact on patient outcome in resected non small cell lung cancer. It is considered to supplement TNM staging system, which is based on anatomical descriptions of tumor and regional lymph nodes as well as metastasis. Although, the prognoses of a significant number of patients are not in agreement with metastasis and real outcome. The aim of our study is to show the impact of histopathological grading on the metastatic potential of a tumor, especially on the site of the disease relapse.



**METHODS:** Paraffin-embedded specimens from 62 patients (79.73% male) with NSCLC were examined. All patients underwent radical excision of their primary tumor (lobectomy or pneumonectomy), followed by regional lymphadenectomy between January 2007 and December 2013 in Cardiothoracic Surgery Department of Athens Naval Hospital. We reviewed the medical records, paying special attention on disease grade in correlation to follow up and the possible metastasis to specific sites.

**RESULTS:** All patients were followed up with a mean period of 24 months (0.2-57). 34 patients died during follow up. We studied metastasis to specific organs: brain, bones, lung, thoracic wall, liver, mediastinum, lymph nodes, renal and no metastasis at all. These data were associated with histopathological grading. We classified patients into five levels of grading: Gx: Grade of differentiation cannot be assessed, G1: Well differentiated, G2: Moderately differentiated, G3: Poorly differentiated, G4: Undifferentiated. At least half of the patients developed metastasis. Lung was the most usual metastatic site followed by bones. G3 disease does not usually metastasize to mediastinum or lymph nodes, while G2 disease has a predominance to brain and liver (13.6%), compared to G3 (5.88%) and Gx (5.26% and 4.05%, respectively).



**CONCLUSIONS:** Histopathological grading has specific metastatic characteristics in patients with non small cell lung cancer. Our study showed that lung is the most vulnerable organ for development of metastases in resected non small cell lung cancer. Histopathological grading is a major determinant of prognosis as it is independent of anatomical considerations as the parameters of TNM system. We believe that a new surgical-pathologic staging of pulmonary carcinoma will assist in better management of this dismal disease.