Part 10B: Histopathology of small cell lung cancer

Prepared By
Bronchoscopy International

Contact us at
BI@bronchoscopy.org

How to use this presentation

- At anytime you may click anywhere with the left mouse button to advance to the next slide.
- This presentation contains NO video or Audio.
- This presentation can be viewed **FULL SCREEN** by right clicking on the slide and selecting Full Screen on the menu bar.
- To exit Full Screen, press the ESCAPE key.

This presentation is part of a comprehensive curriculum for Flexible Bronchoscopy. Our goals are to help health care workers become better at what they do, and to decrease the burden of procedure-related training on patients.

Classification of Lung Tumors

The most recent classification of the World Health Organization has gained wide acceptance. Several histological variant of each type of lung cancer are described. Major categories include :

- **Squamous cell carcinoma** **25% to 40%**
- **Adenocarcinoma** **25% to 40%**
- **Small cell carcinoma** **20% to 25%**
- **Large cell carcinoma** **10% to 15%**

The incidence of adenocarcinoma has increased significantly in the last two decade; it is now the most common form of lung cancer in women and, in many studies, men as well.

Small Cell Carcinoma

- Epithelial cells are small with scant cytoplasm, ill-defined cell borders, finely granular nuclear chromatin (salt and pepper pattern), and absent or inconspicuous nucleoli .
- The cells are round, oval, and spindle-shaped with nuclear molding, high mitoses & necrosis.
- Basophilic staining of vascular walls due to encrustation by DNA from necrotic tumor cells is frequently present .

Small cell carcinoma

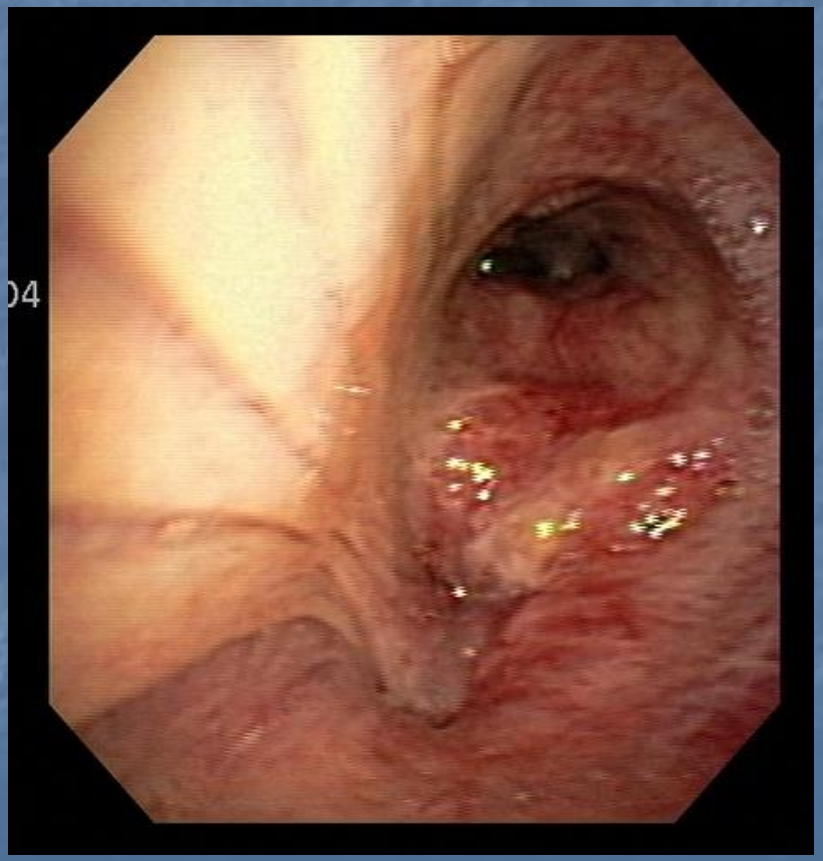
- Electron microscopy shows dense-core neurosecretory granules.
- Immunohistochemical stains for neuroendocrine markers such as chromogranin, synaptophysin ,and leu-7 are positive in most cases.
- Commonly associated with ectopic hormone production.
- Strong relationship with cigarette smoking.
- Most aggressive of lung tumors, metastasize widely, and are virtually incurable by surgical means.

Bronchoscopic appearances of Small Cell Carcinoma

Tumors may be infiltrating, nodular, and obstructive

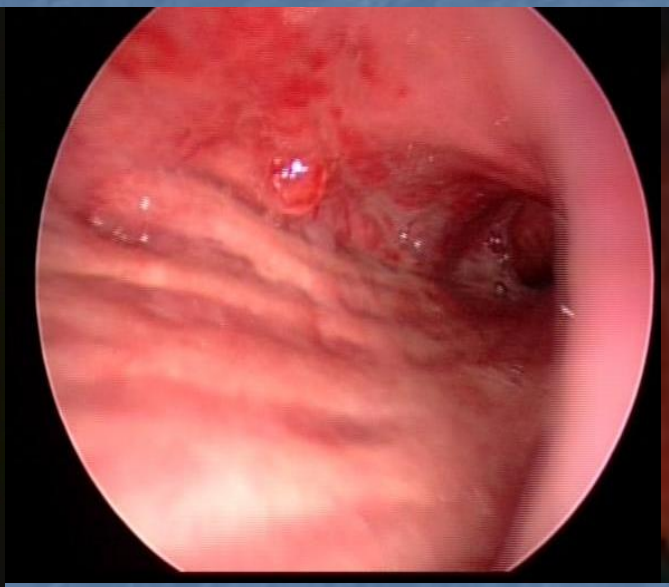
Bronchoscopic appearances of small cell carcinoma

Thickened membranous portion of posterior membrane with prominent mucosal folds



Bronchoscopic appearances of Small Cell Carcinoma

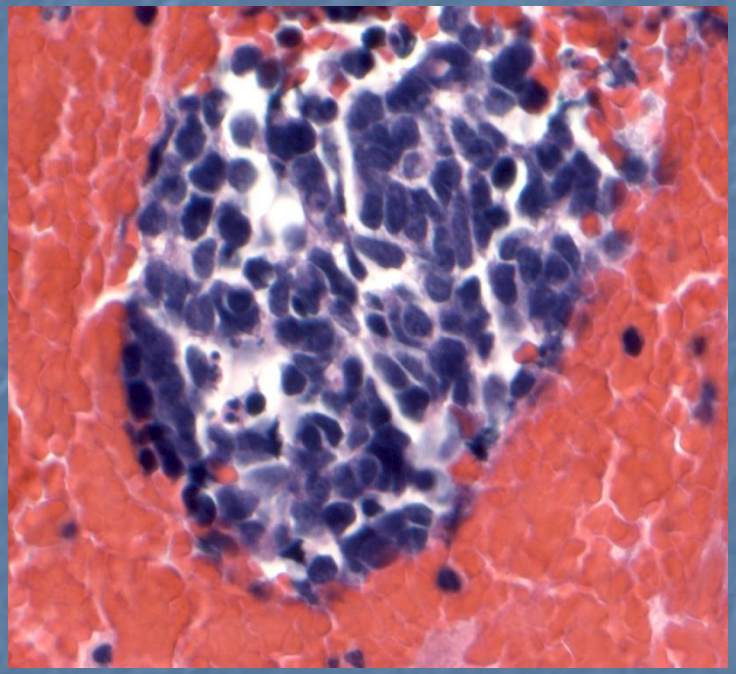
Segmental infiltration

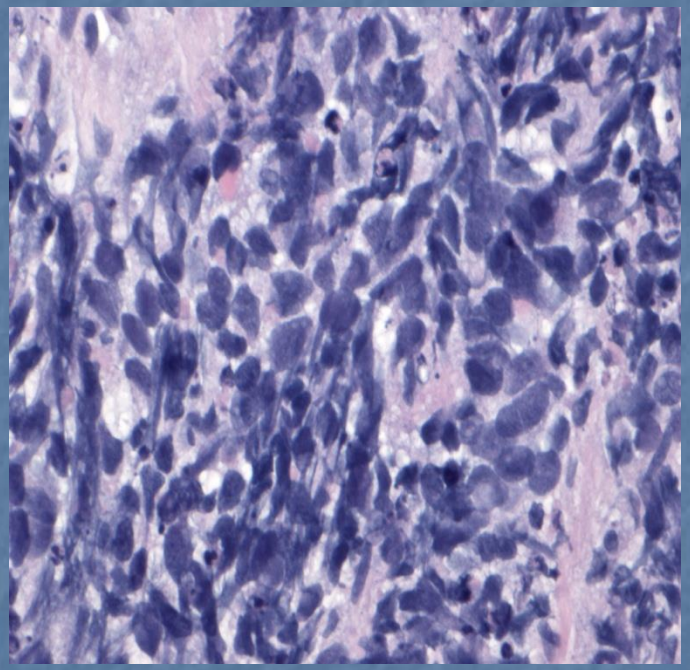


Subcarinal appearance

Nodular involvement

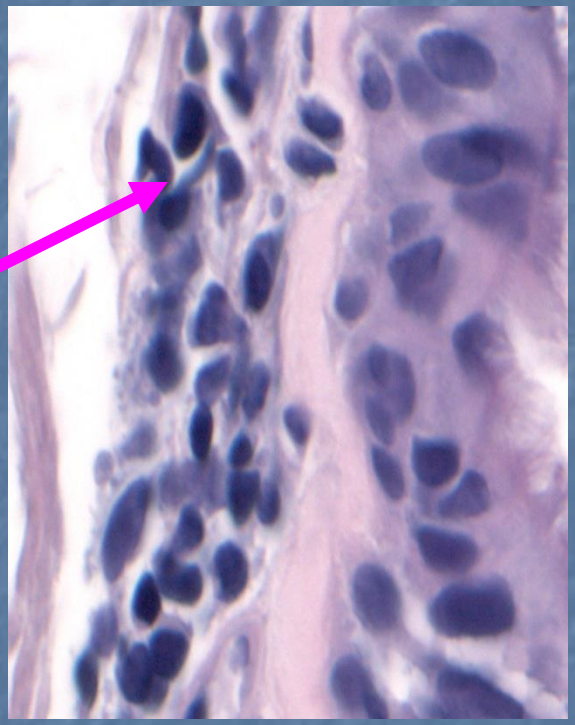
Small Cell Carcinoma with nuclear molding

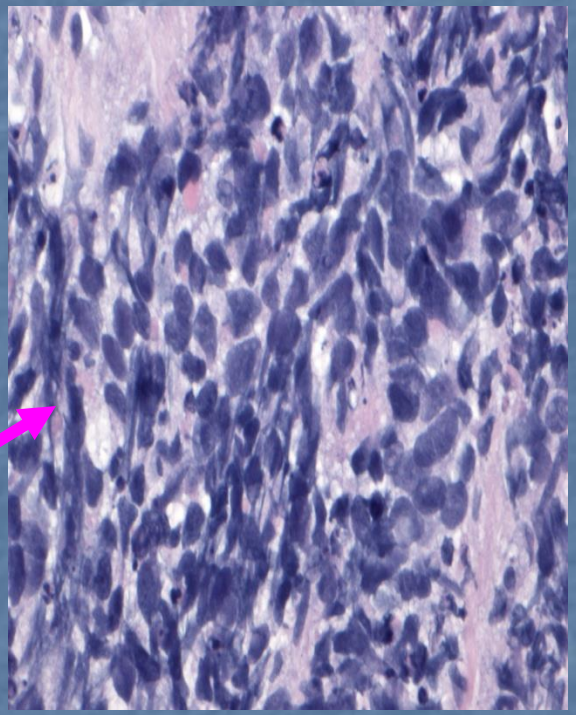




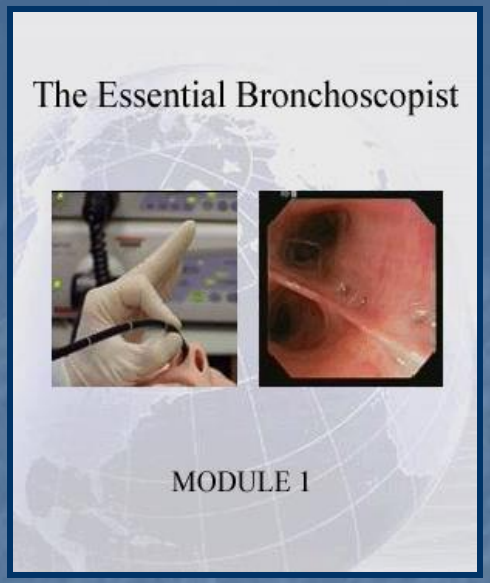
High nucleus to cytoplasm ratio & nuclear moulding
Hematoxylin- Eosin stain

Small Cell Carcinoma



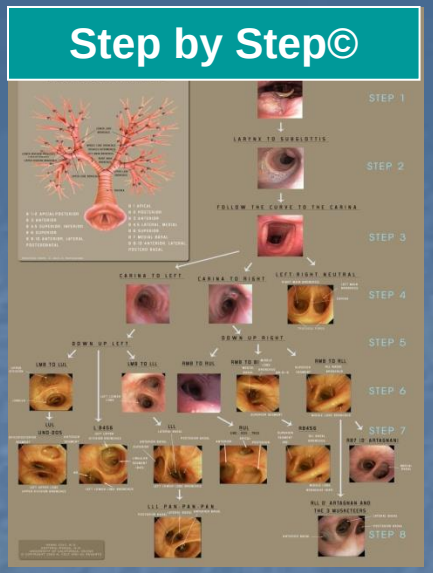


Dark blue cells with minimal cytoplasm are packed together in sheets
Hemotoxylin- Eosin stain

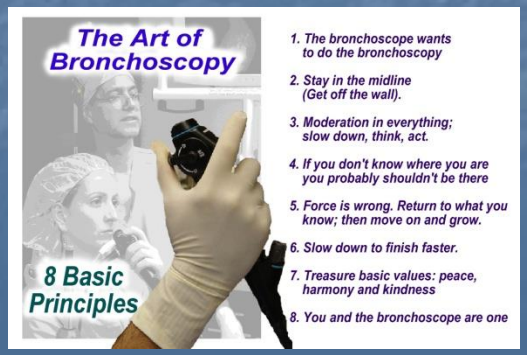


A new curriculum

Assured competency and proficiency



1. **Web-based Self-learning study guide.**
2. **Computer-based simulations, didactic lectures, and image encyclopedia.**
3. **Bronchoscopy step-by-step©: Practical exercises, skills and tasks, competency testing.**
4. **Guided apprenticeship.**
5. **Learning the art of Bronchoscopy.**



DEMOCRATIZATION AND
GLOBALIZATION OF KNOWLEDGE

All efforts are made by Bronchoscopy International to maintain currency of online information. All published multimedia slide shows, streaming videos, and essays can be cited for reference as:

Bronchoscopy International: BronchAtlas©, an Electronic On-Line Multimedia Slide Presentation. http://www.Bronchoscopy.org/Bronchatlas/. Published 2007 (Please add "Date Accessed").

Thank you