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## Histopathological Aspects of Occult Cancer of the Lung

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## Detection of Unsuspected Breast Cancer by Mastography

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Among the different concepts of *early* breast cancer, the one which appeals most to us is that of a lesion which is localized to the area of inception without evidence of metastasis. If more lesions of this kind could be found and treated, improvement in mortality statistics of breast cancer could be rightfully expected, a circumstance which has not yet come to pass during the last three decades.

Mastography has many attributes which go far toward achieving this goal. Broadly speaking, this opportunity arises when a cancer is discovered (1) in a multinodular breast without a dominant mass; (2) in a breast with a palpable mass clinically thought to be benign; (3) in a breast with nothing abnormally palpable; (4) in a breast of a patient undergoing a routine health check-up and (5) in the breast opposite to the one with symptoms.

In a series of 465 cases, X ray studies revealed cancers in 22 per cent, otherwise unsuspected by the surgeon. Because of the variation among surgeons in their attitude toward diagnostic resections, we have no way of knowing how many of these cases might have been biopsied even in the absence of a dominant mass or other clinical signs of malignancy. But we do know that because of the X ray findings, biopsy was not delayed!

## Histopathological Aspects of Occult Cancer of the Lung

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Inhaled carcinogens in cigarette smoke result in widespread changes over the tracheobronchial tree, some of which may be considered as precancerous lesions.

Under the influence of inhaled carcinogens, there is an increase in the number of basal cells and alteration in the ap-



**DR. GERSHON-COHEN**

Among some 1,100 women examined roentgenographically at six-month intervals during the past eight years, 28 cancers were found, and in seven cases, in the absence of a palpable mass. The lesions averaged 1.1 cm. in diameter and metastasis was found in only 30 per cent. The women in this project volunteered enthusiastically, all are over 35 years of age and were free of symptoms when they were enrolled.

In another series of 192 postmastectomy cases, periodic X ray studies of the remaining breast uncovered six cancers over a seven-year period. Axillary metastasis was encountered only once whereas axillary metastasis was found with five of the six original lesions. No X ray studies preceded the initial operations!

Finally, mastography, contrary to the concern of many surgeons, does not tend to displace biopsy, but rather tends to encourage its use without delay. With a greater number of potentially curable cases receiving adequate treatment as a result of prompt routine use of mastography, improvement in future survival statistics should be expected.



**DR. AUERBACH**

pearance of many of their nuclei. When the cilia are still present, the designation is basal cell hyperplasia. Lying

among normal basal cells are others which show varying degrees of nuclei alteration. The number of atypical cells and degree of atypism generally parallels the amount of inhaled carcinogens.

Proliferating basal cells may replace the overlying columnar cells with their cilia. Three types of lesions are observed with a loss of cilia. We call the change stratification when there are no more than four rows of such cells, and squamous metaplasia when there are five or more rows. Atypical cells may be present among the normal cells.

We consider the lesion to be precancerous when all the cells in it are atypical and the basement membrane is intact. The word precancerous does not signify the lesion inevitably leads to invasive cancer, but only that it may do so.

No precancerous zones were found in our non-smoker cases. Our studies indicate invasive carcinoma occurs at one or more sites of precancerous lesions. Continued application of the carcinogenic agent stimulates the proliferation of the cancer cells until the basement membrane is penetrated. Removal of the stimuli results in a reversal of such precancerous foci.

The only lesion which can be considered as occult cancer is one in which the normal surface is entirely replaced by anaplastic cells entirely comparable to the cells found in invasive carcinoma. The demonstration of microscopic invasive carcinoma from such precancerous lesions leads us to believe that these can justifiably be considered as truly preinvasive carcinoma.



DR. OVERHOLT

## Treatment of Occult Carcinoma of the Lung

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lesions. Several facets of this group of occult carcinoma of the lung are of interest.

### FACTORS OF SURVIVAL Asymptomatic Survey of Lung Cancer (66 Clinically occult) Five-year Survival

Total	25
If treated within one month	41%
If resection possible	45%
If tumor localized	51%
If limited resection possible	53%
If all above factors present	71%

1. The sex ratio was four men to one woman.
2. One month or less elapsed between detection and surgical exploration in 32 patients.
3. Ten of the 11 patients who delayed for a year or more between detection and treatment did so at the specific request of their physician.
4. Bronchoscopy and secretion cytology, when done, were of no aid to diagnosis in over half the patients.
5. Operability-resectability rates were 58 and 56 cases respectively.
6. Since 1951, lobectomy has been performed in 80 per cent of the patients resected.
7. Twenty of 39 patients with localized tumors survived five years.

The behavior of lung cancer is paradoxical; the harder the diagnosis, the better the prognosis. Curability seems to be in reverse relationship to preoperative identification of the lesion.

Bronchogenic carcinoma not detected by laboratory study and physical examination, but discovered accidentally at pathological inspection of tissue removed for other reasons is occult. In clinical practice such cases are rare. Asymptomatic lung cancers that are detected by routine chest x-ray or sputum cytology, however, clinically are occult lesions.

At our Thoracic Clinic, only three lung malignancies have been brought to light by sputum or bronchial secretion cytology alone, and these, then, constitute an unusual and clinically unimportant category.

Four per cent of all lung cancers encountered at the Overholt Clinic from 1932 to June 1958 were discovered in an asymptomatic state by routine survey chest x-rays, 66 of 1,671 cases. A five-year follow-up was available in all these 66 survey