An early lesion of pulmonary carcinosarcoma: possible diagnostic problem in frozen section interpretation

Sarcomatoid carcinoma is a rare malignant neoplasm of the lung. Its definition was ambiguous until the recent establishment of World Health Organisation (WHO) criteria, according to which it is classified into carcinosarcoma, pleomorphic carcinoma, and spindle cell carcinoma. Most of the reported cases of carcinosarcoma or pleomorphic carcinoma of the lung have been large tumours. We present a case of an extremely small carcinosarcoma of the lung with an unfavourable outcome.

An asymptomatic 69 year old man was admitted to our hospital because of a coin lesion that was detected on a medical examination. He had smoked 20 cigarettes a day for 48 years. Computed tomography showed an irregular shadow of 19 mm maximum diameter in contact with the pleura, situated in the S3 region of the right lung. Neither transbronchial biopsy nor percutaneous needle biopsy yielded positive results. A thoracoscopic biopsy was performed nine months after surgery because there was no positive lymph nodes.

Immunohistochemically, the carcinomaous cells were positive with antibodies to various cytokeratins, including AE1/AE3 (pre-diluted; Dako, Carpenteria, California, USA). They were negative for vimentin (prediluted; Dako). Sarcomatous cells were negative for cytokeratins and strongly positive for vimentin (prediluted; Nichirei, Tokyo, Japan). S-100 (prediluted; Nichirei, Tokyo, Japan) was positive in the foci with cartilaginous differentiation.

It is important to know just how small a carcinosarcoma of the lung can be, because the existence of small carcinosarcomas suggests that the sarcomatoid transition could take place relatively early. In the literature, small carcinosarcomas of the lung are encountered extremely rarely. Koss et al. reviewed the literature and found 34 cases that fit the WHO definition of pulmonary carcinosarcoma, among which only two cases were 2 cm in size. Early lesions of carcinosarcoma of the lung may necessitate intraoperative diagnosis. Care should be taken in the interpretation of a frozen section because insufficient sampling could lead to an erroneous diagnosis, such as reactive fibroblastic proliferation.

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References
Cirrhosis with steatohepatitis following longterm stilboestrol treatment

Diethylstilboestrol, which is chemically related to the female hormone oestrone, was the main form of androgen suppression in the treatment of advanced prostate cancer up until the late 1980s. Although luteinising hormone releasing hormone (LHRH) analogues have superseded diethylstilboestrol over the past 10 to 15 years, it is relatively common in clinical practice to encounter patients who are still taking diethylstilboestrol. Adverse hepatic reactions involving diethylstilboestrol have been reported in animal models, but are still relatively uncharacterised in humans.

We describe a case in which a patient started on stilboestrol (1 mg twice daily) at age 65, after a diagnosis of prostatic adenocarcinoma of Gleason grade 3 (1+2). There was no evidence of metastatic spread, despite locally advanced disease. After 11 years of stilboestrol treatment, he was transferred to three monthly injections of LHRH analogue (Zoladex) to reduce the risk of developing the cardiovascular side effects associated with stilboestrol. At this time, liver function tests were abnormal, with γ-glutamyl transpeptidase at 208 U/litre (normal range, 5–50) and aspartate aminotransferase at 63 U/litre (normal range, 10–35), but other liver enzymes were normal. The patient's alcohol intake was minimal. Liver ultrasound showed a diffuse nodular pattern suggestive of metastatic malignancy. Liver biopsy showed established cirrhosis with a steatohepatitis comprising steatosis, nuclear glycogenation, hepatocyte ballooning, and scaly hepatocyte necrosis (Fig 1). There was no evidence of primary or metastatic malignancy.

The most common cause of steatohepatitis is alcohol excess, which should be excluded clinically. Causes of non-alcoholic steatohepatitis include obesity, diabetes mellitus, nutritional imbalance, and drugs including amiodarone and tamoxifen. Because no other contributing factors were identified, the liver disease in our patient was thought most likely to be the result of treatment with stilboestrol.

Although the effect of stilboestrol on the liver has been investigated, research has centred on animal models. One human study described parenchymal damage, in the form of non-alcoholic steatohepatitis, in six post-mortem cases with a history of diethylstilboestrol treatment for prostate cancer. In addition, two documented cases of hepatocellular carcinoma have been reported following longterm stilboestrol treatment. Interestingly, non-alcoholic steatohepatitis is seen not only with oestrogenic drugs such as stilboestrol, but also with the partial agonist drug tamoxifen. It is known that steatohepatitis inducing drugs such as stilboestrol accumulate within mitochondria, resulting in ATP depletion and lipid peroxidation of hepatocytes.

Diethylstilboestrol was once the main alternative to oestrogen therapy in the treatment of prostate cancer. However, its potential side effects, which include breast enlargement and cardiotoxicity, mean that it has been largely superseded by LHRH analogues with superior safety profiles. Although the use of stilboestrol has declined, its reintroduction to large scale clinical use has recently been proposed, particularly for early hormone refractory disease. This case report emphasises the need for regular monitoring of liver function tests in those receiving such treatment. It also serves as a further example of a steatohepatitis inducing drug.

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References


Figure 1 A needle biopsy of liver showing pronounced steatosis and hepatocyte ballooning, together with architectural abnormalities amounting to cirrhosis.

Figure 1 Applied to an anaplastic large cell lymphoma (ALCL) case, CD31 decorates both vascular channels and sinuses that are filled with ALCL cells (diaminobenzidine reaction; haematoxylin counterstain; original magnification, ×100).

References


Figure 2 Staining for CD34 verifies that these channels are in fact sinuses (diaminobenzidine reaction; haematoxylin counterstain; original magnification, ×100).
Cytology of the Breast

McKee GT. (£130.00.) Oxford University Press, 2002. ISBN 0 19 514006 0.

Grace McKee’s recent publication provides an extremely comprehensive overview of breast entities. Although it is entitled “Cytology of the Breast”, it encompasses much more, providing clinical and histopathological details, in addition to cytological features of a very wide range of breast entities.

The initial chapters provide detailed discussions of normal breast histology and cytology, methods of aspiration, smear preparation, and laboratory techniques, including sections on the reporting of cytological specimens and the limitations of cytology. Although concentrating on fine needle aspiration biopsy material, exfoliative cytology of nipple secretions and ductal lavage specimens are also included. Subsequent chapters are organised such that entities are introduced with clinicopathological descriptions followed by gross, histological, then cytological features. For many entities this is followed by a summary of cytological findings. There are numerous photomicrographs of both histological and cytological features, which are of excellent quality, the discussions are detailed, and references are extensive. The very comprehensive nature of the text is perhaps a slight weakness, for even the numerous photomicrographs cannot fully illustrate the features of some of the lesions discussed, and although the limitations of cytological diagnoses are described, it is not always clear whether the diagnosis of some entities from the cytological specimen is practically feasible.

The book is splendidly written and beautifully illustrated. In the context of the recent changes in breast diagnosis and the increased complexity of breast lesions, an in-depth review of breast from the cytological and histological perspectives is timely. This book will be a useful reference text for those involved in diagnosing breast lesions by either cytology or histology, and may also be recommended to clinicians who take their own cytological breast specimens.

The Diagnosis of Lymphoproliferative Diseases: An Atlas


The authors set out clearly in their preface how and why this atlas came into being. An atlas in pathology is usually a compendium or analecta of illustrations attended by short annotations. As a rule, atlases don’t make the “go for” book list when it comes to a diagnostic crunch. This book is more than an atlas. Condensed into a mere 262 (258 if one really wants to be pedantic) pages, crammed with excellent colour illustrations, this book is also full of facts, suggestions and guidelines. From the introduction (where one of the authors indulges himself with a military reference!) to the reporting of cytological specimens and the limitations of cytology. Although concentrating on fine needle aspiration biopsy material, exfoliative cytology of nipple secretions and ductal lavage specimens are also included. Subsequent chapters are organised such that entities are introduced with clinicopathological descriptions followed by gross, histological, then cytological features. For many entities this is followed by a summary of cytological findings. There are numerous photomicrographs of both histological and cytological features, which are of excellent quality, the discussions are detailed, and references are extensive. The very comprehensive nature of the text is perhaps a slight weakness, for even the numerous photomicrographs cannot fully illustrate the features of some of the lesions discussed, and although the limitations of cytological diagnoses are described, it is not always clear whether the diagnosis of some entities from the cytological specimen is practically feasible.

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