G36 A Rare Case of Biphasic Malignant Mesothelioma Due to Occupational Asbestosic Exposure

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After attending this presentation, attendees will understand some aspects about the incidence of malignant mesothelioma and the histological classification of this disease, with particular reference to the biphasic mesothelioma histotype with prevalent polymorphic sarcomatoid and desmoplastic aspects.

This presentation will impact the forensic science community by considering the likely gradual increase in judicial autopsies in the next decade for deaths from malignant mesothelioma in subjects with occupational exposure, in order of the expected peak incidence in the coming years. Assuming that the diagnosis of mesothelioma is histological, the purpose of this presentation is to share the experience and opportunity to evaluate rare histological aspects of the case. The malignant pleural mesothelioma is an aggressive tumor with a growing incidence. Clinical studies predicting cases of mesothelioma have estimated that this growth will continue for 10 – 15 years and that in the next 20 years, the number of cases will double in Western Europe, rising from 5,000 deaths in 1998 to 9,000 in 2018.[1]

However, the malignant disease, unlike other asbestos, related diseases, remains a rare tumor, an event considered "sentinel" of exposure to asbestos because of the low incidence in the general population (in Italy 3.42 cases per 100,000 in males and 1.09 cases per 100,000 in females) and of the high causal specificity.[2]

The relationship between asbestos and mesothelioma, first identified by Wagner *et al*. in South Africa, has now been documented all over the world.[3]

The average prevalence of mesothelioma in people with prolonged heavy exposure to asbestos is 2% to 3%, but has reached up to 10% in some series. The latency period is usually 20 years or longer.[4]

Malignant mesothelioma is usually seen in older adults, although well-documented cases in young individuals are on record.[5]

In some instances, a familial clustering has been demonstrated and it was hypothesized a genetic background. In most instances, the initial involvement is in the lower half of a hemithorax but spread to the rest of the pleural cavity is the rule.[6]

The diagnosis of mesothelioma is complicated by a peculiar characteristic that differentiates it from many other cancers, namely the extreme histologic polymorphism.

The differential diagnosis is also very difficult for the fact that the pleural and peritoneal cavities, in addition to mesothelioma, often localize metastases of primary tumors located in distant organs that may also be clinically silent.

It is now widely accepted, and repeated by the most recent treaties, the fact that a diagnosis of mesothelioma can be made only after the histological examination of abundant material (at least 10 grams of tissue according to Cotes and Steel), supplemented by a very accurate survey on the major organs and systems (autopsy or clinical and instrumental evaluation), which allows exclusion with certainty all other possible primary tumor's.

Epithelial mesothelioma is the more frequent (50 – 75%), histological variant, followed by the biphasic form (25 – 30%) and the sarcomatoid one (15 – 20%).[7]

In view of its unusual occurrence, a case of biphasic mesothelioma with prevalent polymorphic sarcomatoid and desmoplastic aspects is reported.

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