Mark Podberezin, J Clin Exp Pathol 2018, Volume 8
DOI: 10.4172/2161-0681-C1-045

Malignant mesothelioma and differential diagnosis with reactive mesothelial proliferation

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Malignant mesothelioma (MM) is one of most lethal forms of cancer, causing about 3000 deaths per year in USA and 5000- in Europe. Asbestos exposure is one of most important causative factor, and latency period after exposure can be as long as 40 years. Being tumor of serous membranes, it most commonly involves pleura, with minority of cases manifesting as peritoneal mesothelioma. Despite recent advances in multimodality treatment, prognosis of MM patients is dismal, and average survival is less than a year after diagnosis. Most common clinical presentation is unilateral recurring pleural hemorrhagic effusion. However, depending on histologic variant, some patients do not have pleural effusion and present with shortness of breath and increased pleural thickness. The latter is particularly true in sarcomatoid and desmoplastic variants of MM. Definitive diagnosis of MM can be done on pleural biopsy based on combination of assessment of both morphologic and immunohistochemical findings, with the recent inclusion of molecular cytogenetic findings in the diagnostic armamentarium. Most crucial and difficult task is to separate malignant process from its benign mimics. And, despite all recent advances in the diagnosis of MM, differential diagnosis between MM and reactive mesothelial proliferation remains major challenge. Importance of careful and thorough morphologic evaluation of growth pattern cannot be overestimated. Presence of invasion is unequivocal criterion of malignancy while absence of definitive invasion seen on the biopsy still cannot completely rule out MM. Therefore, other features, such as cellularity with cell distribution and growth pattern, necrosis, and cytologic atypia have to be evaluated. Recent addition of BAP-1 immunostaining, as well as molecular studies, has proven to be very helpful in differential diagnosis between MM and reactive mesothelial proliferation. Discussion of the above diagnostic aspects is main focus of current presentation.

Biography

Mark Podberezin has completed his Post-doctoral Research Fellowship during the year 2001 from Children Hospital Los Angeles and University of Southern California and Residency in Anatomic and Clinical Pathology at University of Illinois, Chicago. He has done the Fellowship in Hematopathology during the year 2013 from Texas Methodist Hospital. He is the Clinical Assistant Professor at University of Saskatchewan, Canada. He has published more than 12 papers in reputed journals.

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