According to the data shows Stomach cancer (29.63 %), Infiltrative gastric cancer (11.11 %), Cardio esophageal cancer (7.04 %), advanced stomach cancer (14.81 %), tumor form (11.11 %), Gastric ulcer (25.93 %) and Crohn disease (3.7 %).

Conclusion

Significant progress has been made in understanding the pathogenesis and the molecular biology of GSRC and in optimizing the available treatment options and modalities. However, improving outcomes for patients with GSRC remains a significant challenge. GSRC has several features, such as chemoresistance and peritoneal metastasis, which suggest poor response to anti-cancer drug-based therapies. This article has reviewed how improving the understanding of the pathological and molecular subgroups may facilitate the selection of patients that may benefit from CMT, including surgery, chemoradiation, immunotherapy, and HIPEC. Due to the absence of specific and effective molecular targets, challenges remain in the treatment strategy of GSRC. Thus, further studies should focus on the pathogenesis and molecular biology of GSRC.

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MORPHOLOGICAL AND DIAGNOSTIC OVERVIEW OF PULMONARY ALVEOLAR MICROLITHIASIS AND EVALUATING A SUPPORTING THERAPHY TOWARDS A RARE LUNG PATHOLOGY

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Introduction

Interstitial lung diseases are lung disorders that affects the interstitium and the air sacs and eventually causing fibrosis of the lungs. Pulmonary Alveolar Microlithiasis (PAM) is one of rarest among the interstitial lung diseases and is associated with accumulation of diffuse microscopic calculi called microliths within the alveolar spaces that progresses with interstitial fibrosis. This disease has been distributed with less than 800 cases in all the continents of the globe and specifically with most cases of this disease been recorded in Turkey and Italy. PAM occurs in both sexes without any specific race preference. It occurs at any age, but higher incidences are between 20–50 years of age. However, according to worldwide reports we have cases recorded with neonates and also cases with elderly people. PAM is mostly detected incidentally on chest radiographs while we perform radiographic imaging's for other pathologies. The causes of PAM are still idiopathic as the mechanism inducing microliths formation is still unknown despite, it has a proven genetic theory that expresses it's a rare inherited disease in an autosomal recessive manner with identification of this pathology in children whose parents were close relatives. A mutation in the SLC34A2 gene that encodes a type IIb sodium-phosphate co-

transporter in alveolar type II cells results in impaired clearance, and accumulation and formation of microliths composed of calcium phosphate causing PAM. This process gradually affects the entire lung parenchyma as genetic defect leads to violation of metabolic processes and as a result the lungs become thick, stony and heavy causing respiratory insufficiency that develops respiratory failure and chronic pulmonary heart disease (cor pulmonale). The clinically assured diagnosis of PAM is often made based on radiographic studies, histopathology and a genetic testing demonstrating mutations and others can be chest computed tomography, pulmonary function test and lung biopsy demonstrating with concentric micro calculi found in the alveoli. The therapeutic approach for this disease is often difficult with its unclear etiology and no definite treatment is available so, we prefer only symptomatic conservative treatment till date aimed at reducing the severity of clinical manifestations and preventing complications. Moreover, lung transplantation remains the only remedy for end-stage disease.

Goal

To determine the pathomorphological and diagnostic perspectives of this rare lung pathology and to study the possibilities of therapy with the characteristics of the disease and its association with pathological features and disease progression.

Material and Methods of the research

This article is demonstrated with the study of pathological features of this disease with the overview of articles for PAM on European Respiratory Society, ResMed journal, Australian Lung Foundation, American Lung Association, PubMed Central, Medi graphic literature and Oxford Handbook of Respiratory medicine with the use of keywords such as PAM, lung, morphological and diagnostic features.

The results of the research and their discussion

On the basis of morphological changes, PAM is observed mostly in alveolar spaces as compared to metastatic or dystrophic calcification which are mostly found in interstitial or vascular sections. On investigations morphologically, the parts were found to be sandy and hard, requiring a chemical decalcification procedure. Histological sections showed diffuse damage to the lung parenchyma with calcifying nodules filling the alveoli. The concretions were lamellar in shape with a concentric «bulbous» morphology. In patients, the alveolar walls were mostly normal, but mild interstitial fibrosis was seen. Bronchiolar epithelia did not show any abnormality. With lung biopsy, we can detect concentric micro calculi located in the alveoli and excessive deposition of glycogen granules is determined in the walls of the bronchi. At autopsy, the lungs are heavy and rock hard, often needing a saw to cut them. Pathological examination reveals an increase in the density of lung tissue in the basal and middle sections. With progressive stages of the disease, the opacifications may obscure the outlines of the heart and diaphragm. The last stages is characterized by an increase in the number and size of calcified deposits, resulting in intense calcification of the interstitium and pleural serosa layer. Microliths can sometimes be found in sputum or bronchoalveolar lavage (BAL), which can contain alveolar macrophage. Histological studies with PAM help us differentiate between other calcification pathologies. Chest radiographs demonstrates sand-like calcification scattered throughout the lungs which is also known as — the symptom of «sandstorm» and secondly the «black pleura» sign where the pleural surface is seen as a black line between the high-density ribs and the lungs. High resolution computed tomography (HRCT) of chest is much useful in revealing diffuse hyperdense micro nodular airspace opacities. The disease progression with chronic alveolar calcification and interstitial inflammation of PAM leading to fibrosis can significantly result in progressive decrease in lung volumes creating right heart failure. Usually PAM is slowly progressive, with progressive breathlessness, hypoxia, respiratory failure, and death. Progressive pulmonary infiltrates result in restricted lung motili-

ty and impaired gas exchange, leading to progressive respiratory failure. Aiming at therapy, there are no methods of treatment to stop the formation of microliths in the alveolar tissue. On behalf of the reason of unstoppable microliths formations, respiratory heart failure gradually leads to disability and death of the patient. So, the outcome of this disease is with an unfavorable prognosis. As there is no proven effective treatment of this disease, conservative treatment is preferred in order to reduce clinical symptoms, disease severity and complications. Bronchodilators, expectorants, antibacterial and cardiotropic drugs are used. With Disodium etidronate, an inhibitor of pulmonary calcium phosphate crystals is under usage showing mixed results of effective treatment. Currently, lung transplantation has been successful. Till date, there have not been any documented recurrences of intra-alveolar microliths in lung transplanted patients. At the last stage of the pathological process, long-term oxygen therapy is performed. Therapeutic and preventive measures help to somewhat delay the development of cor pulmonale. Patients with an established diagnosis are recommended a healthy lifestyle, smoking cessation, rational employment, and vaccination against respiratory infections. Work associated with dust, gas contamination, heavy physical exertion should be monitored constantly with precautions.

Conclusion

Interstitial lung pathologies have always been a great task for medical practioners, researchers, radiologists and pulmonary pathologists. PAM is a rare inherited, interstitial lung pathology with the accumulation of diffuse microscopic calculi called microliths formed as a result of impaired clearance occurred due to mutation. This lung pathology remains with an unclear etiology and unapproved therapeutic measures till date. PAM progresses with chronic alveolar calcification and interstitial inflammation leading to fibrosis and can significantly result in progressive decrease in lung volumes creating right heart failure. In the later stages of the disease morphologically we can see increased number and size of calcified deposits, resulting in intense calcification of the interstitium and pleural serosa. In PAM, lung transplantation has been the only successful surgical approach till date. Progressive disease is maintained with long-term oxygen therapy and symptomatic treatment measures. The discovery of the genetic basis of PAM is a major advance that sheds light on disease pathogenesis and suggests strategies for development of future biomarkers and therapies for efficient management of this pathology.

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