the disease activity. Our aim is to summarize the recent studies on peri-tumoral stroma and tumor interstitial fluid compared to normal mammary gland structure and use the results for early diagnosis, monitoring disease and maybe change the therapeutical targets.

Materials and Methods: The study represents a literature review and is based on state-of-the-art information colected from 12 articles on breast cancer development from PubMed.

Results: In comparison to normal mammary gland structure, in the peri-tumoral stroma of breast cancer there are increased alpha smooth muscle actin, collagen IV, hyaluronan, fibroblast activated protein, myeloid-derived suppressor cells, cancer Associated adipose and a variety of host cells including macrophages and fibroblasts. Elevated expression of hyaluronan, tumor Associated macrophages, vascular endothelial growth factor-A, myeloid-derived suppressor cells- tell us about a poor prognosis. Numerous studies have demonstrated that inhibition of hyaluronan synthesis using 4-MU, tyrosine kinase inhibitor imatinib, aromatase inhibitor letrozole reduce breast cancer tumor cell proliferation and migration.

Conclusion: Current therapies target primarily the carcinoma cells, although many women have recurrent disease or/and develop metastases. This study demonstrates the importance of tumor microenvironment in mammary cancer development and the necessity to apply the treatment that will includes both the stroma and the cancer cells.

Keywords: brest cancer, tumor interstitial fluid, peri-tumoral stroma, tumor microenvironment.

293. RETINOBLASTOMA: GENETIC BACKGROUND, MODERN DIAGNOSTIC METHODS AND THERAPIES

Natalia Mazuruc

Scientific adviser: Ludmila Perciuleac, PhD, Associate Professor, Department of Human Genetics and Molecular Biology, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

Introduction: Retinoblastoma is a rare malignant eye tumor that develops from the embryonic tissue of retina. This disease is one of the classic examples of monogenic diseases. It develops due to a mutation of RB1 gene, which in located on chromosome 13 in the 13q14 locus. It should be noted that about 90% of all cancers of the eyes in children under 5 years of age are caused by RB1 mutations. Thus the study of modern methods of diagnosis and treatment of retinoblastoma can be effectively applied as a model for the treatment of other cancers caused genetically.

Material and Methods: In this study we performed a comprehensive review of medical data for the last 10 years using PubMed, Scopus and IBN to study the incidence, prevalence, causes, symptoms, and modern methods of treatment of this disease.

Discussion results: There is no doubt that the main cause of this disease is different mutations in both alleles of the retinoblastoma tumor suppressor gene - RB1, or a mutation in one allele, but with obligatory deactivation of another. About 60% of retinoblastomas are not hereditary, and in most cases are unilateral, with a medium age of diagnosis being 2 years. Retinoblastoma can also be bilateral and

hereditary (40% of cases), with an earlier medium age of diagnosis being 1 year. The disease is characterized by a variety of symptoms, among which the most important are the leykokoriya and strabismus. International common classification system of the severity of the disease allows the implementation of general procedures for the treatment of disorder according to the degree of its development. Current trends in the treatment are aimed at maximum preservation of the patients vision, and include techniques such as cryotherapy, laser and transpupillary thermotherapy treatment along with the standard radiation therapy. Genetic diagnosis methods include PCR analysis, DNA sequencing, Southern blot method, and allow to reveal the problem at an early stage of development. During the period from 1991 to 2004, in Moldova were registered 37 children with retinoblastoma, representing 1.26% of the total number of children with malignant tumors in a given time.

Conclusion: Retinoblastoma is the most common type of eye cancer in children. However, with early detection, sequential treatment and strict compliance with the doctor's recommendations, it is possible to preserve the vision in 75% of cases. The introduction into medical practice of genetic diagnosis and genetic counseling of families is appropriate, as this helps to reduce the mortality and morbidity in patients due to early detection of problems and their early treatment.

Keywords: Retinoblastoma, modern diagnostic methods, RB1.

294. COMPARATIVE GENETIC ANALYSIS OF CYSTIC FIBROSIS IN POPULATIONS OF THE REPUBLIC OF MOLDOVA AND INDIA

Mele Veettil Mohammed Raneesh

Scientific adviser: Igor Cemortan, MD, PhD, Associate Professor, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

Cystic Fibrosis is the most common and life shortening disease in Caucasians, and it is found commonly in Europe, Australia and United States of America. It is an autosomal recessive monogenetic disorder that affects several system, which is caused by mutations in the CFTR (Cystic Fibrosis Transmembrane Conductor Regulator) gene. This gene encodes for the transmembrane conductance regulator protein which responsible for the conductance of chloride ions across epithelial cells in different organs. This affects the transport of salt and water in different organs, which results in thick secretions.

Aim of the study*:* To study the genetic component and mutation of cystic fibrosis in different races especially in India and Moldova, to understand the pathogenesis of the genetic material that causes cystic fibrosis.

Material and methods. Analysis of latest articles and databases concerning Cystic fibrosis in both populations.

Conclusion. 1 in 2000 is the prevalence of Cystic fibrosis patient in Moldova whereas 1 in 40000 to 100000 is the prevalence in India.Recent statistics suggest that 1 in 25000 expatriates of India in United Kingdom and United States of America have Cystic fibrosis. However, the exact number of