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Anais: 3° Simpósio de Especialidades Oncológicas e Seminário de Iniciação Científica do Instituto Mário Penna

IMMUNOHISTOCHEMICAL ANALYSIS OF PATIENTS WITH LUMINAL B BREAST CANCER: Pathological parameters and therapeutic strategies

ANÁLISE IMUNOHISTOQUÍMICA DE PACIENTES COM CÂNCER DE MAMA LUMINAL B: Parâmetros patológicos e estratégias terapêuticas

Maria Vitória Costa Felipe
Afiliação: Faculdade de Minas, FAMINAS/ Instituto Mário Penna, Núcleo de Ensino, Pesquisa e Inovação
ORCID: 0009-0002-0199-349X
E-mail: mavifelipe2000@gmail.com

Arthur Schenider Oliveira Felipe
Afiliação: Universidade Federal de Minas Gerais, Instituto de Ciências Biológicas/ Instituo Mário Penna, Núcleo de Ensino, Pesquisa e Inovação
ORCID: https://orcid.org/0009-0003-2889-1546
E-mail: arthurschenider5@gmail.com

Ramon de Alencar Pereira
Afiliação: Instituto Mário Penna, Núcleo de Ensino, Pesquisa e Inovação
ORCID: 0000-0002-8170-9171
E-mail: ramon.pereira@mariopenna.org.br

Diogo Gomes da Costa
Afiliação: Universidade Federal de Minas Gerais, Instituto de Ciências Biológicas/ Instituo Mário Penna, Núcleo de Ensino, Pesquisa e Inovação
ORCID: https://orcid.org/0009-0005-5251-2723
E-mail: diogogomesdacosta96@gmail.com

Jorge Gomes Goulart Ferreira
Instituto Mário Penna, Núcleo de Ensino, Pesquisa e Inovação, Faculdade de Minas, FAMINAS
ORCID: 0000-0002-0333-9419
E-mail: jorge.ferreira@mariopenna.org.br

Fábio Ribeiro Queiroz
Afiliação: Instituto Mário Penna, Núcleo de Ensino, Pesquisa e Inovação
ORCID: https://orcid.org/0000-0003-0238-5787
E-mail: fabio.queiroz@mariopenna.org.br

ABSTRACT

Keywords: Breast cancer; Immunohistochemical; Luminal B; Molecular subtypes; Genetic mutations.

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1. INTRODUCTION

Breast cancer (BC) is one of the leading malignancies among women, exhibiting significant molecular and histological heterogeneity. The Luminal B subtype is a hormone-dependent neoplasia characterized by high cellular proliferation, greater aggressiveness, and a higher likelihood of metastasis, often diagnosed at advanced stages. Identifying of an immunohistochemical profile and analyzing genetic mutations have proven essential for personalizing treatment and improving prognosis2,4,5. This study aims to characterize the immunohistochemical profile of patients with Luminal B Breast Cancer (LBBC) and explore its relationship with mutations in genes such as AKT, PIK3CA,

BRCA1, BRCA2, and TP53, which are associated with the risk of disease progression and treatment resistance. The data used in this study were collected from patients at the Mário Penna Research Institute, using samples from the Tumor Biobank.

2. OBJECTIVES

The main aim is to analyze the immunohistochemical profile in patients with LBBC, identifying specific markers related to prognosis and therapeutic decisions. The study also aims to investigate the relationship between these immunohistochemical characteristics and clinicopathological data, focusing on molecular subtypes, histological grades, and staging.

3. DESIGN AND MOTHODS

This study is based on clinicopathological data from 18 patients diagnosed with LBBC, sourced from the Tumor Biobank of the Mário Penna Research Institute (CAAE - 82703418.8.0000.5121). Immunohistochemical analysis will include FOXP3, PDL-1, PDL-2, CD3, CD4, CD8, Ki-67, HER2, Estrogen (ER), and Progesterone (PR) markers1,3. In addition, the following parameters will be evaluated: age, staging, histopathological grade, treatments administered (neoadjuvant, adjuvant, surgery, hormone therapy), and the presence of metastasis.

4. RESULTS

The average age of the patients was 51 years (ranging from 33 to 77 years). Regarding staging, 56% presented tumors in the early stages (IA and IIA), while 44% were diagnosed at advanced stages (IIIA, IIIB, and III). The predominant histopathological grade was G1 (72%), followed by G2 (17%) and G3 (5.5%). The most common treatment was neoadjuvant therapy (50%), while 39% received adjuvant therapy. Metastasis was observed in 44% of the cases. Immunohistochemical analysis will help identify key protein expression patterns that may influence tumor behavior and therapeutic response.

5. CONCLUSIONS/FINAL CONSIDERATIONS

This study will contribute to understanding the immunohistochemical and genetic profile of LBBC, providing crucial data for developing prognostic biomarkers. It is expected that immunohistochemical analyses, together with clinical data, will offer a solid foundation for developing personalized therapeutic strategies, helping to optimize treatment for patients with this subtype of BC. The use of Tumor Biobank data emphasizes the importance of translational research in oncology, allowing scientific advancements to be applied in clinical practice.

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NOTAS

CONFLITOS DE INTERESSE

Não possui conflitos de interesse financeiros ou de outra natureza por parte dos autores.

CONTRIBUIÇÃO

Concepção e elaboração do manuscrito: Maria Vitória Costa Felipe, Arthur Schenider Oliveira Felipe, Fábio Ribeiro Queiroz.
Coleta e Análise de dados: Maria Vitória Costa Felipe, Arthur Schenider Oliveira.
Discussão dos resultados: Maria Vitória Costa Felipe, Arthur Schenider Oliveira, Ramon de Alencar Pereira, Diogo Gomes da Costa, Jorge Gomes Goulart Ferreira, Fábio Ribeiro Queiroz.
Revisão e aprovação final do artigo: Ramon de Alencar Pereira, Fábio Ribeiro Queiroz.

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