



REPUBLICAN SPECIALIZED
SCIENTIFIC PRACTICAL

MEDICAL CENTER OF
ONKOLOGY AND RADIOLOGY

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Women in Oncology Europe Summit

Correlation Between Pathohistological and Immunohistochemical Characteristics of Breast Cancer

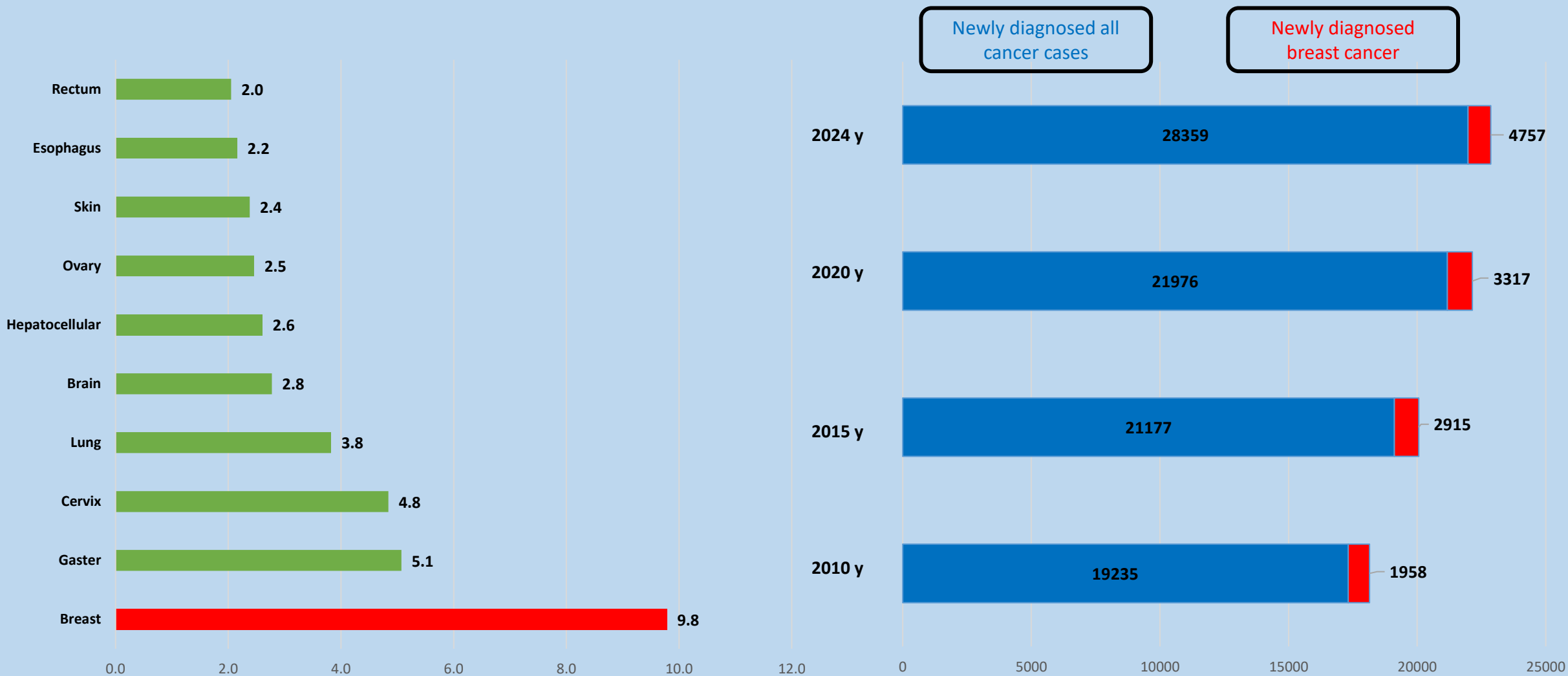
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Prevalence of breast cancer

- Breast cancer (BC) is the most common cancer in women, with 1 in 8 cancer diagnoses. According to GLOBACAN in 2022, there were 2.31 million new cases world wide, making up 11.6 % of all cancers. It is also the leading cause of cancer death in women, responsible for 0.67 million deaths, or 6.9 % of all cancer deaths.
- The prevalence of breast cancer increases significantly with age, peaking between 45 and 65 years, which aligns with global epidemiological trends.
- In low- and middle-income countries such as Uzbekistan, the burden of breast cancer continues to rise, often accompanied by late-stage presentation and limited access to comprehensive care.

Cancer incidence structure in Uzbekistan



Prevalence of breast cancer

- Histologic grading and immuno-histochemical evaluation of estrogen receptor (ER), progesterone receptor (PR), human epidermal growth factor receptor 2 (HER-2), and Ki-67 proliferation index play a crucial role in increasing the differential diagnostic value among various types of breast carcinoma.
- High rates of cell proliferation are typically indicative of highly malignant tumors. Therefore, the assessment of mitotic activity is critical for the diagnosis of breast cancer.

Objectives:

- The aim of this study was to determine the histopathological and immuno-histochemical characteristics of breast tumors from a Republican Specialized Scientific and practical Medical Center of Oncology and Radiology of Uzbekistan.

Subtypes	Luminal A	Luminal B, HER2/neu negative	Luminal B, HER2/neu positive	Triple negative
ER	ER+	ER+/-	ER+/-	ER-
PR	PR+/-	PR+/-	PR+/-	PR-
HER2/neu	negative	negative	positive	negative
Ki-67	<14%	>14%	>14%	>14%

Methods:

- **Study sample:** 87 female breast cancer patients.

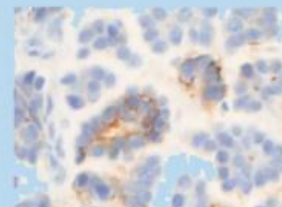
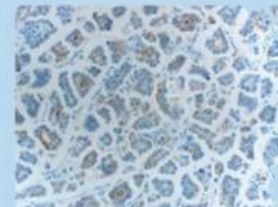
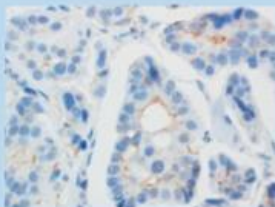
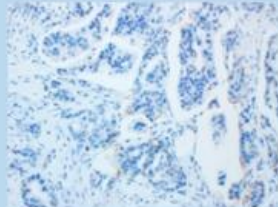
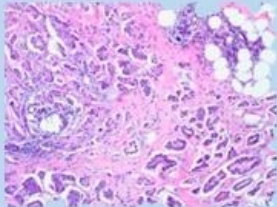
The study included female patients over 18 years of age, whose histopathological and immunohistochemically reports were stored in the archives of the Department of Pathomorphology from January 2024 to December 2024.

Location: Republican Oncologic Center, Tashkent

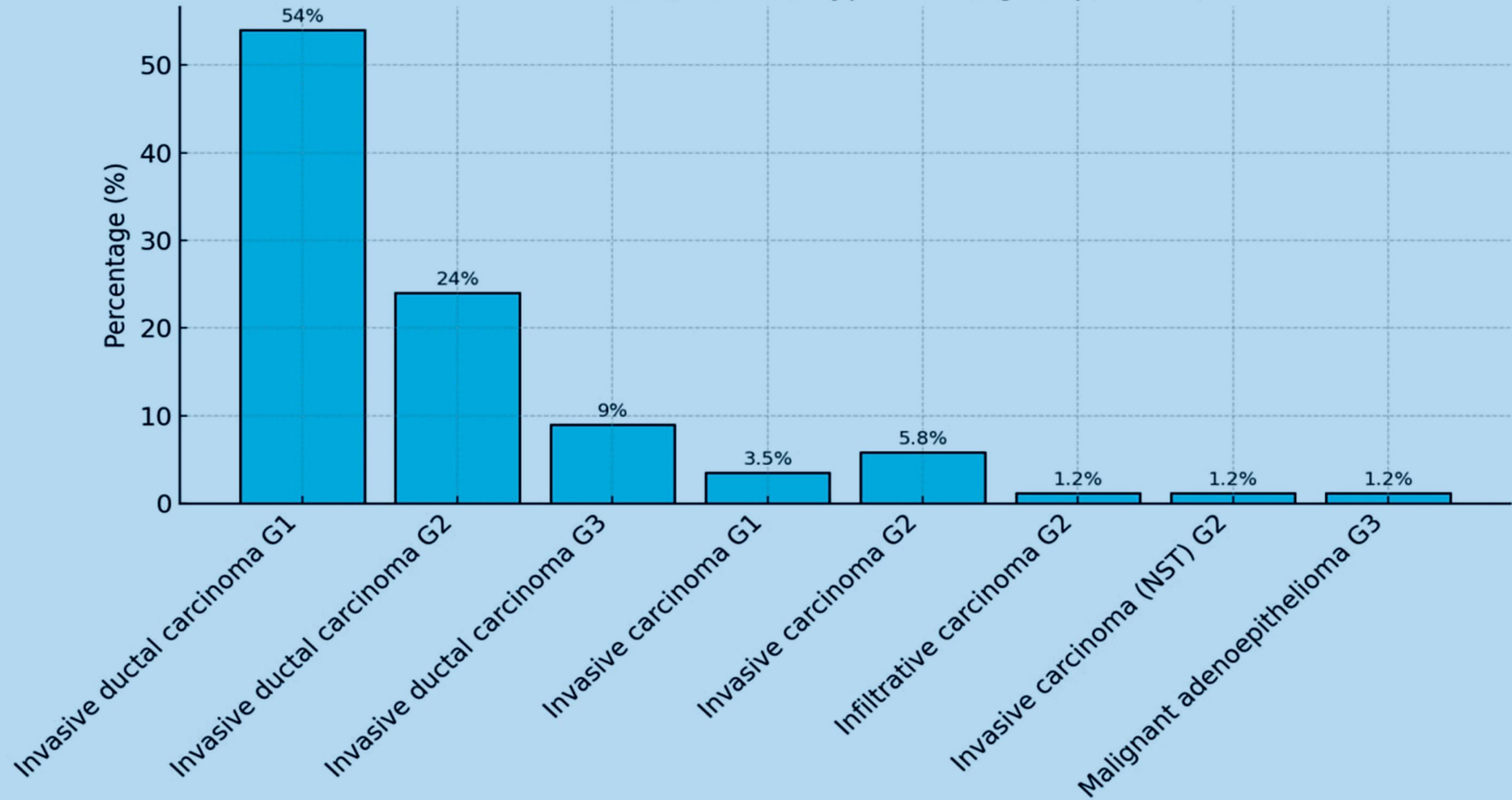
- **Procedures:** -Histological classification (type, grade)
 - Immunohistochemistry (Luminal B, Her2/neu, triple-negative)
 - Statistical correlation of morphology & molecular subtype

Results:

- As a result of the study, among the 87 patients, 47 were found to have invasive ductal carcinoma G1, 21 patients – invasive ductal carcinoma G2, 8 – invasive ductal carcinoma G3, 3 – invasive carcinoma G1, 5 – invasive carcinoma G2, 1 – infiltrative carcinoma G2, 1 – invasive carcinoma of no special type G2, and 1 – malignant adenoepithelioma G3.

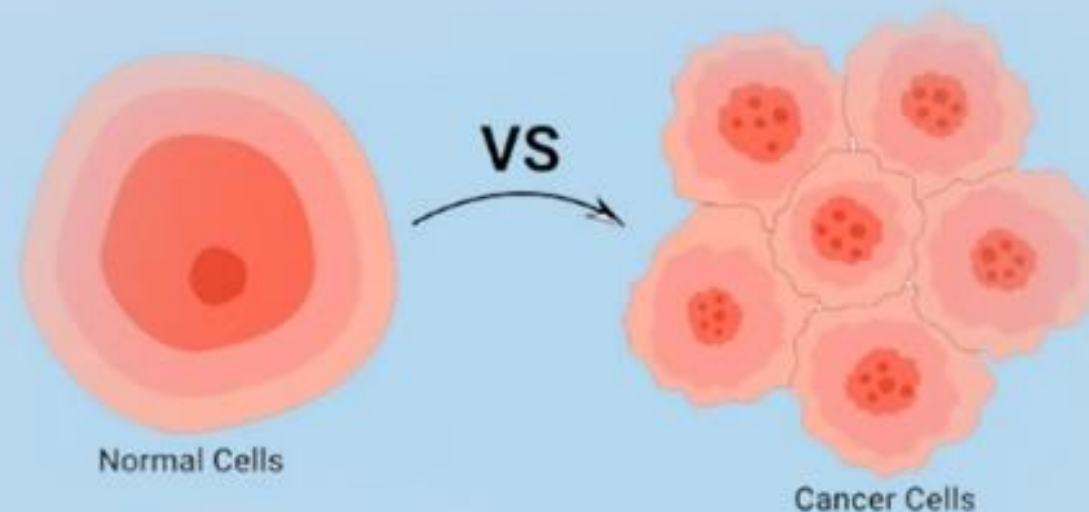


Distribution of tumor types among 87 patients



Results:

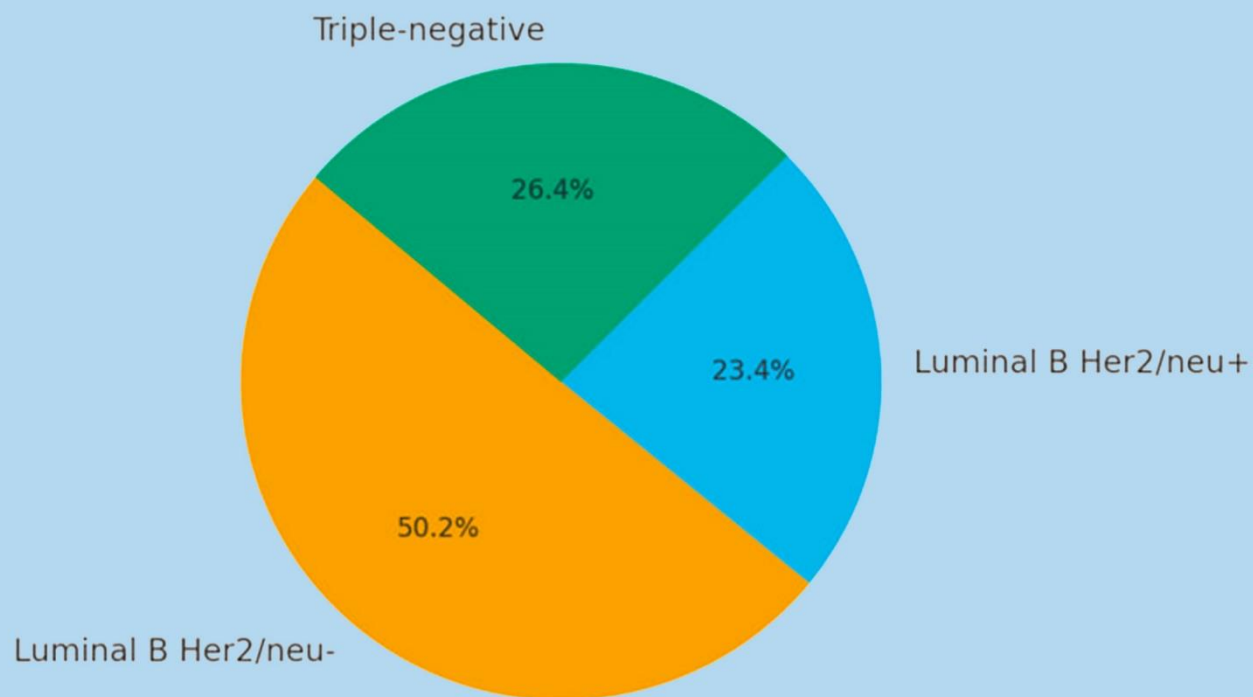
- When dividing the pathohistological results according to the obtained immunohistochemical findings, the highest incidence among the studied cohort was confirmed for invasive ductal carcinoma G1: luminal B type Her2/neu-negative – 24%, Her2/neu-positive – 11.2%, triple-negative – 12.6%. Invasive ductal carcinoma G2: luminal B type Her2/neu-positive – 10.3%, luminal B type Her2/neu-negative – 7%.



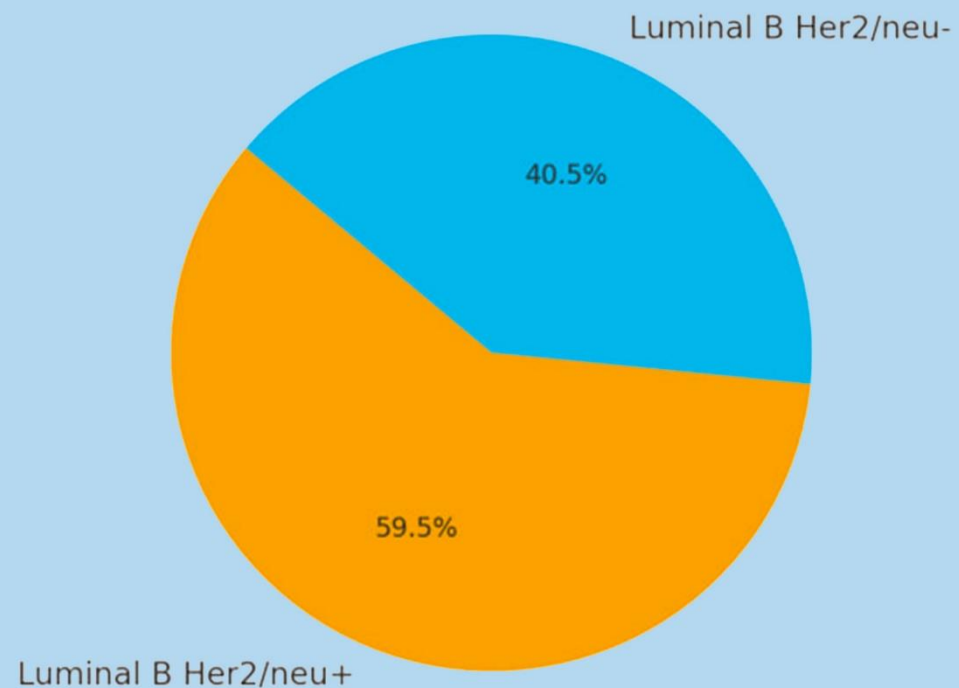
Results:

Immunohistochemical subtypes of invasive ductal carcinoma

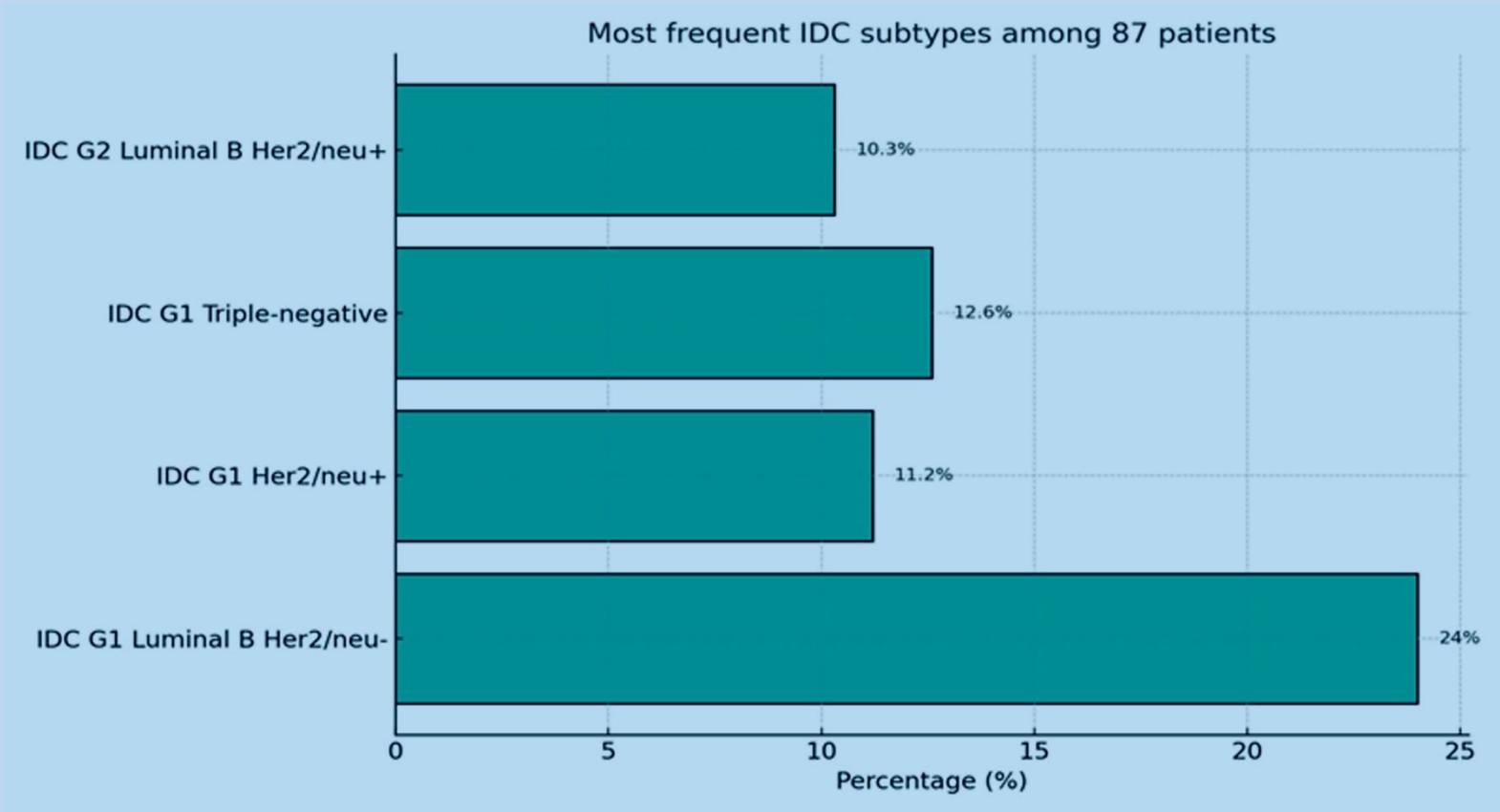
IDC G1 Subtypes



IDC G2 Subtypes



Implications:



It should be concluded that the most common findings among the 87 (100%) study results were invasive ductal carcinoma G1 (luminal B type Her2/neu-negative) – 24%, invasive ductal carcinoma G1 (Her2/neu-positive) – 11.2%, invasive ductal carcinoma G1 (triple-negative) – 12.6%, and invasive ductal carcinoma G2 (luminal B type Her2/neu-positive) – 10.3%, respectively, compared with the remaining results.

Conclusion

1. The incidence of BC is increasing every year in Uzbekistan
2. The highest morbidity and mortality rates was observed at age of 45-65 years in Uzbekistan.
3. Invasive ductal carcinoma grade 1, particularly the Luminal B Her2/neu-negative subtype (24%), emerged as the most prevalent entity.
4. This emphasizes the need to integrate immunohistochemical characterization with morphological grading to refine therapeutic decisions and prognostication.

Thank you for your
attention