

25th Shaukat Khanum Cancer Symposium 2026 · Virtual e-Poster

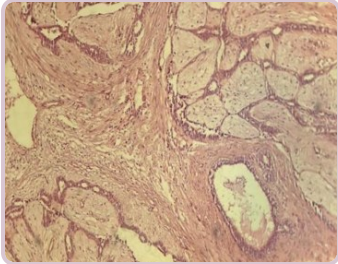
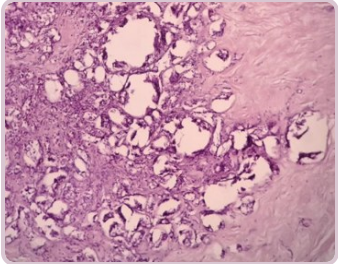
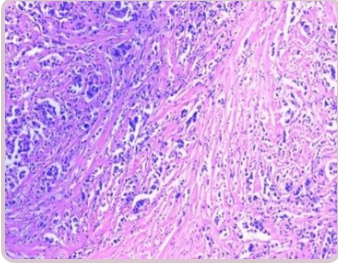
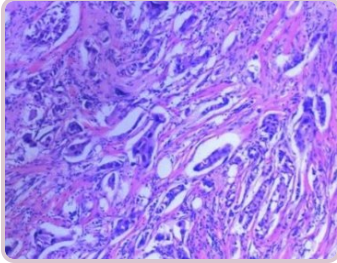
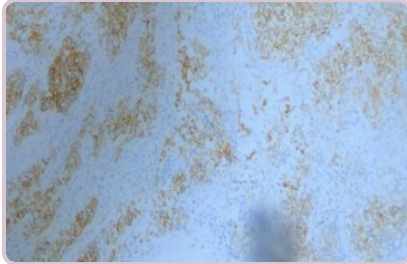
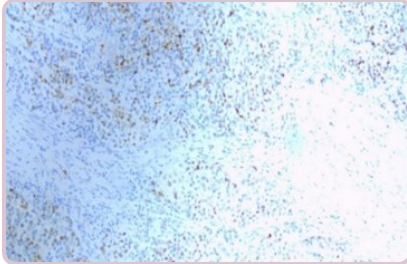
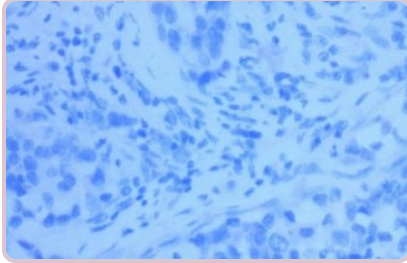
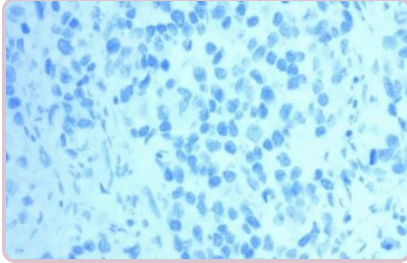
BIOCHEMICAL AND MORPHOLOGICAL STUDIES TO INVESTIGATE THE INVASIVE CAPABILITIES OF BREAST EX VIVO CANCEROUS TISSUE

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Ex vivo FFPE breast tissue from patients	H&E morphology + IHC biomarkers	Toward early detection & personalized therapy
INTRODUCTION - Breast cancer is the most diagnosed cancer in women, and rising yearly. - Invasive cells breach the basal lamina, enter stroma and can metastasize. - In Pakistan, early-stage invasive disease is often missed and detailed morphology is neglected.	AIM & OBJECTIVES Aim: study morphological transitions from non-invasive to invasive breast carcinoma. - Biochemical analysis using clinicopathological data. - Differentiate non-invasive vs invasive morphology; identify ER, PR, HER2, Ki67 for early detection.	KEY FINDINGS 25 female samples: 23 invasive, 2 DCIS. IDC (NST) 70–80%; Grade 2 most common (60%). Stage III 65% in age <60. - HER2-enriched (ER–/PR–/HER2+) in <60; ER+/PR+/HER2– in >60.
METHODOLOGY 1 Samples 25 FFPE blocks, mainly PIMS; IIUI ethics approval, consent. 2 Sectioning 2–5 μm microtome sections; heat-fixed at 60 °C. 3 H&E Dewax, rehydrate, hematoxylin, eosin, mount; reviewed with histopathologist. 4 IHC Citrate retrieval; anti-ER, PR, HER2, Ki67 at 4 °C; HRP, DAB. 5 Analysis Nottingham grade, TNM stage, age <60 vs >60.		
RESULTS A. GRADE & STAGE Tumor grade G2 60% G3 24% 16% Age <60: stage III 65% I–II 35% Age >60: stage II 65% III 35% B. H&E MORPHOLOGY  Normal  DCIS  IDC G1  IDC G2 7/9  IDC G3 8/9 G1/DCIS = 16%; H&E 10x, DCIS 40x C. IHC (SAMPLE 12)  HER2 +  Ki67 50%  ER –  PR – Age <60 (40–60 y) Age >60 (60–75 y) Receptors ER–, PR–, HER2+ · Ki67 50% ER+, PR+, HER2– · Ki67 15%		
DISCUSSION - Grade 2 IDC predominated; Grade 3 showed single-cell infiltration and lymphovascular invasion. - Younger women: higher stage, HER2+; older: hormone-receptor positive. - Ki67 50% = rapid proliferation.	CONCLUSION - H&E grading and staging give a clear view of cell architecture, separating invasive from non-invasive disease. - ER, PR, HER2, Ki67 support early diagnosis and personalized therapy.	CLINICAL RELEVANCE - Test ER/PR in all invasive cases to guide endocrine therapy. - HER2 by IHC selects anti-HER2 therapy (trastuzumab).

References

Javaid et al. 2022, Ann King Edward Med Univ 28(1):74–79 · Houvenaeghel et al. 2023, Front Oncol 13:1287253 · Agostinetti et al. 2024, Cell Rep Med 5(6):101575

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