Jeffery Kelly | Scripp...

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Dirk Görlich

Max Planck Institute

Steven L. McKnight

UT Southwestern Medical Center

2025 Ross Prize Symposium: Protein Misfolding and Aggregation in Disease

Breast ultrasound finding may signal invasive cancer, research suggests

Hannah Murphy | *September 17, 2025* | *Health Imaging* | Breast Imaging

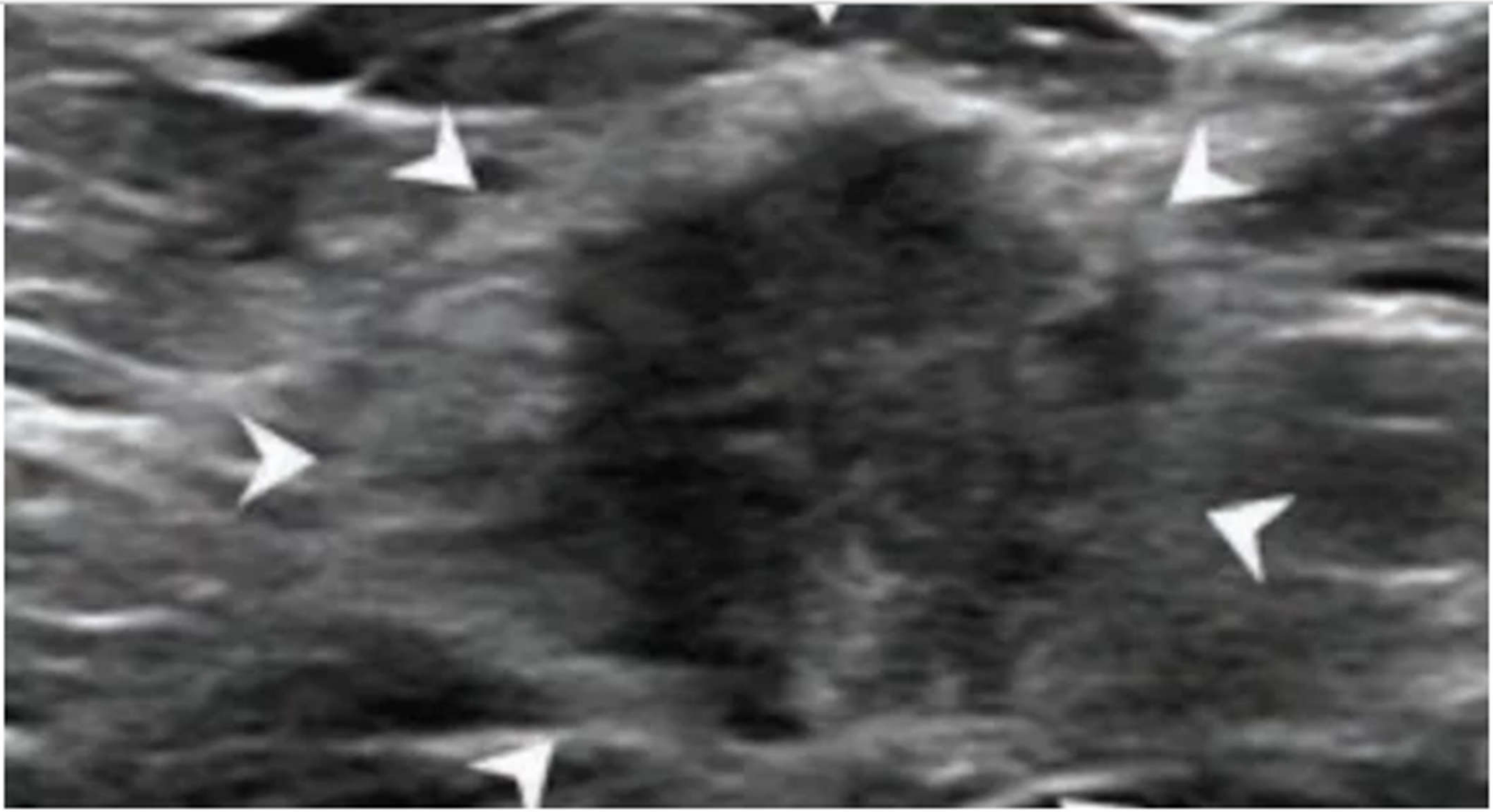
AJR American Journal of Roentgenology

Original Research | Breast Imaging | September 17, 2025

Echogenic Rind Associated With Suspicious Masses on Ultrasound: Performance for Breast Cancer Diagnosis and Associations With Pathologic Tumor Characteristics

Authors: Derek L. Nguyen, MD, Lars J. Grimm, MD, MS, Victoria A. Wells, MD, Katie Shpanskaya, MD, and Jay A. Baker, MD | AUTHOR INFO & AF

New Articles | https://doi.org/10.2214/AJR.25.33732



Diagnostic transverse ultrasound image of left breast shows irregular hypoechoic nonparallel mass with indistinct margins corresponding to palpable finding, assessed as BI-RADS category 4. Both readers reported the mass as having associated echogenic rind with complete circumferential extent (arrowheads). Caption and photo courtesy of ARRS.

CLINICAL NEWS | CT

Imaging linked to blood cancers in children and adolescents

Will Morton

Sep 18, 2025

Exposure to radiation from medical imaging is linked to a small but significant increased risk of blood cancers among children and adolescents, according to a study published September 17 in the *New England Journal of Medicine*.

The finding is from a retrospective analysis involving more than 3.7 million children born in the U.S. or Ontario, Canada, with researchers suggesting medical imaging was associated with 10.1% of hematologic cancers.

Latest in CT

AAPM critiques study regarding CT before pregnancy
SEPTEMBER 19, 2025

DL algorithm estimates lung nodule cancer risk,

ORIGINAL ARTICLE

Medical Imaging and Pediatric and Adolescent Hematologic Cancer Risk

Authors: Rebecca Smith-Bindman, M.D., Susan A. Alber, Ph.D., Marilyn L. Kwan, Ph.D., Priscila Pequeno, M.Sc., Wesley E. Bolch, Ph.D., Erin J.A. Bowles, M.P.H., Robert T. Greenlee, Ph.D., +10 , and Diana L. Miglioretti, Ph.D. Author Info & Affiliations

viruses MDPI

Viruses. 2022 Jun 24;14(7):1376. doi: 10.3390/v14071376

Virological Treatment Monitoring for Chronic Hepatitis B

Elisabetta Loggi [1], Stefano Gitto [2], Filippo Gabrielli [3,4], Elena Franchi [3], Hajrie Seferi [3], Carmela Cursaro [5], Pietro Andreone [5,6,7,*]

Abstract: More than 250 million people worldwide are currently infected with hepatitis B, despite the effectiveness of vaccination and other preventive measures. In terms of treatment, new therapeutic approaches are rapidly developing, promising to achieve the elimination of infected cells and the complete cure of infection. The on-treatment monitoring of these innovative antiviral treatments will require the implementation of new virological tools. Therefore, new biomarkers are being evaluated besides the traditional virological and serological assays in order to obtain information on different steps of the viral replication cycle and to monitor response to therapy more accurately. The purpose of this work is to describe both standard and innovative tools for chronic hepatitis B treatment monitoring, and to analyse their potential and feasibility.

In parallel, more sophisticated therapies should be associated to a more sophisticated monitoring approach and, indeed, the tools to allocate patients in definite clinical categories and monitor the efficacy of treatment are also rapidly evolving, aiming at serological markers able to provide more information than the classical serology (qualitative HBsAg) and HBV-DNA. These new biomarkers must reflect the intrahepatic control of viral activity and the measure of immune control during treatment. Some of these new markers are already introduced in the clinical practice, given their advantage of standardization, automation and simple use. Some others are more difficult to be introduced, and more efforts have to be spent in order to address this objective.

REVIEWS IN BASIC AND CLINICAL GASTROENTEROL AND HEPATOLOGY

Pancreatic Cancer: Pathogenesis, Screening, Diagnosis, and Treatment

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Pancreatic ductal adenocarcinoma (PDAC) is a clinically challenging cancer, due to both its late stage at diagnosis and its resistance to chemotherapy. However, recent advances in our understanding of the biology of PDAC have revealed new opportunities for early detection and targeted therapy of PDAC. In this review, we discuss the pathogenesis of PDAC, including molecular alterations in tumor cells, cellular alterations in the tumor microenvironment, and population-level risk factors. We review the current status of surveillance and early detection of PDAC, including populations at high risk and screening approaches. We outline the diagnostic approach to PDAC and highlight key treatment considerations, including how therapeutic approaches change with disease stage and targetable subtypes of PDAC. Recent years have seen significant improvements in our approaches to detect and treat PDAC, but large-scale, coordinated efforts will be needed to maximize the clinical impact for patients and improve overall survival.

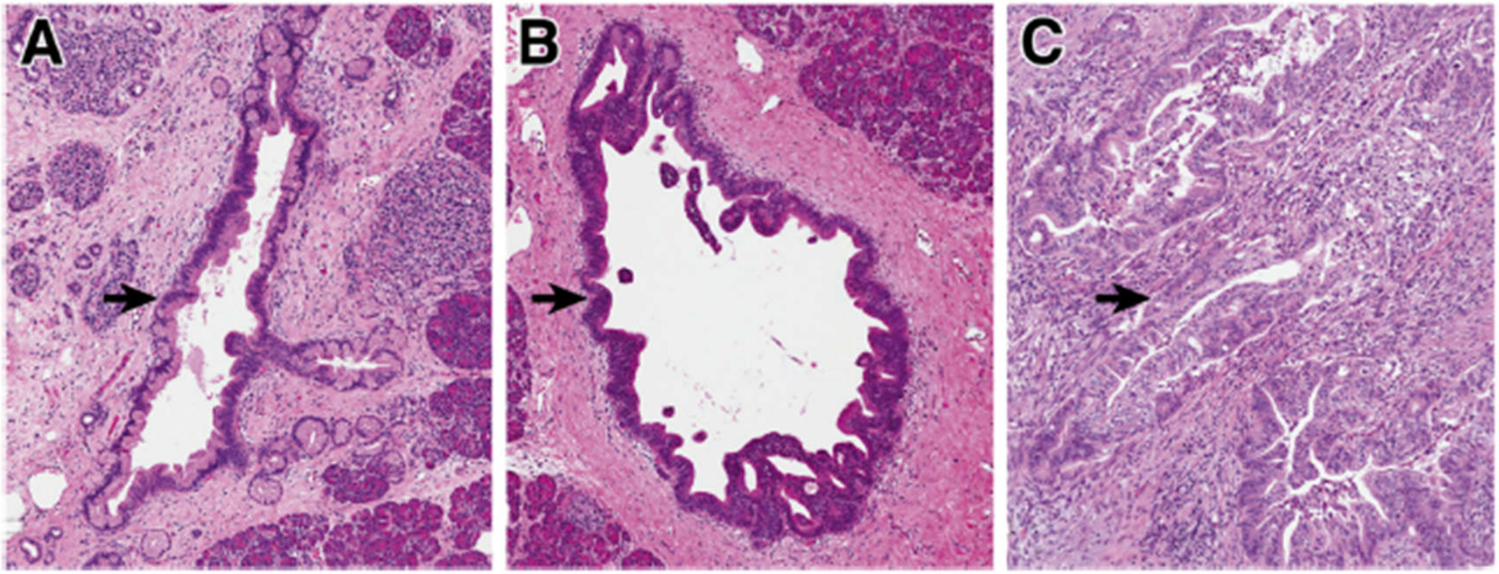

Figure 1. Precancerous neoplasia in the pancreas. (*A*) Low-grade PanINs involve the pancreatic ducts. They have apical mucin and mild cytologic atypia, with the nuclei still retaining their polarity. (*B*) High-grade PanIN shows increase architectural and cytologic atypia, which architectural complexity, nuclear pleomorphism, and loss of nuclear polarity. (*C*) Invasive PDAC shows severe architectural and cytologic atypia with a striking desmoplastic response in the stroma.

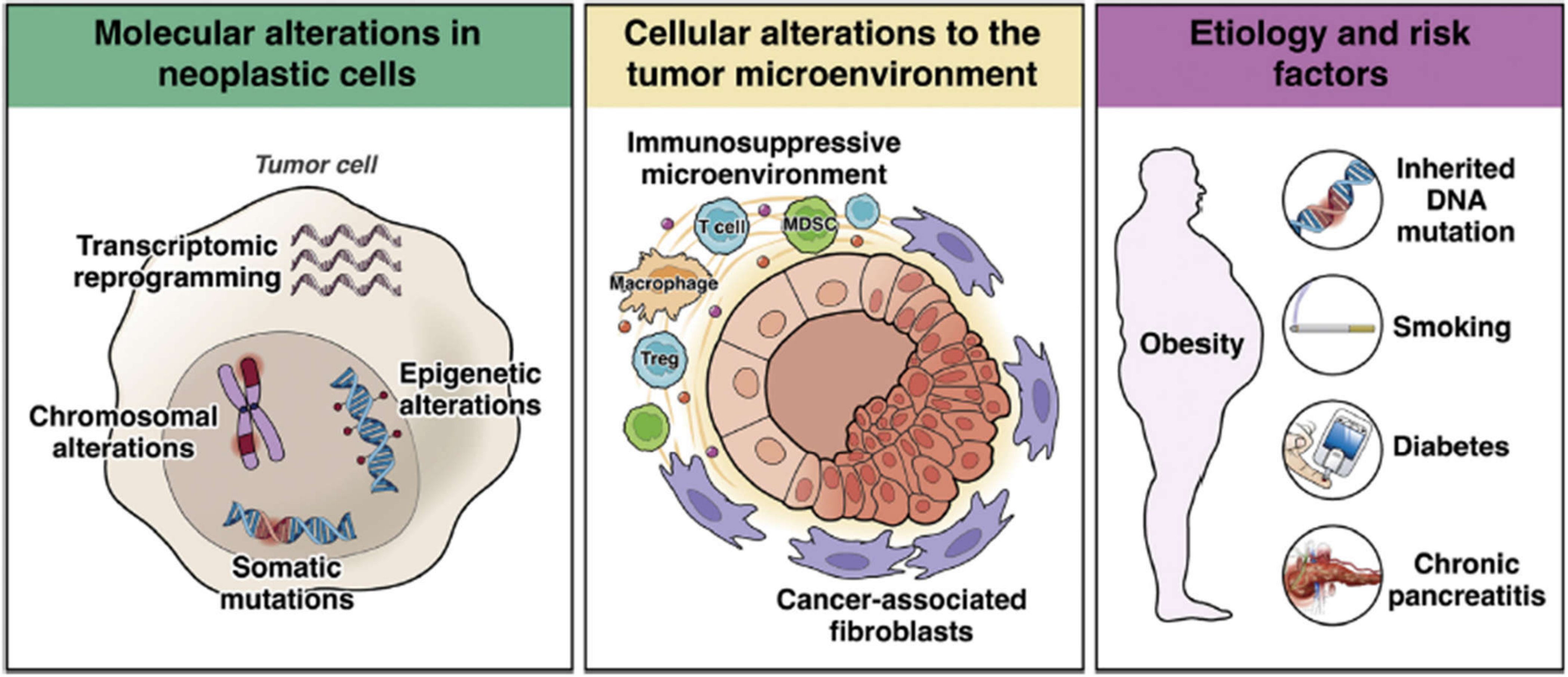

Figure 2. Mechanisms of pancreatic cancer pathogenesis. Molecular contributions to pathogenesis include somatic mutations

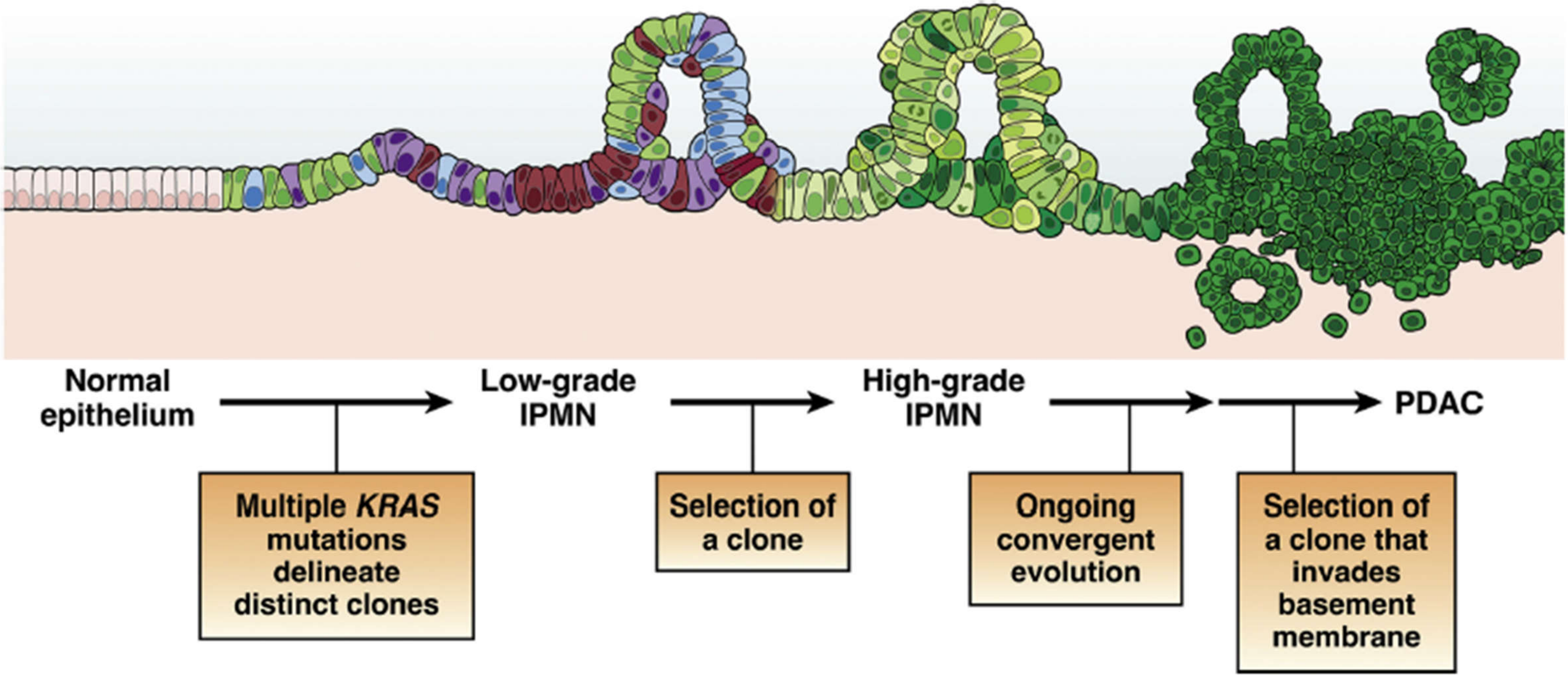

Figure 3. A refined model of multistep tumorigenesis in premalignant pancreatic tumorigenesis. Low-grade IPMNs are characterized by multiple mutations in the initiating oncogene *KRAS*, suggesting polyclonal evolution of multiple genetically independent precancers. Selection of a clone leads to the development of a high-grade IPMN, which then undergoes ongoing