364P

Beyond Treatment Assignment: Evaluating Longitudinal Oncology Strategies Using Real-World Cancer Registry Data

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CORE QUESTION

How do patients transition beyond initial treatment, which factors predict these transitions, and how are realized pathways associated with survival?

DATA SOURCE

Baden-Württemberg Cancer Registry (BWCR)

HARMONIZED ANALYTICAL FRAMEWORK

01 QUANTIFY Treatment transition

02 EXPLAIN Baseline predictors

03 EVALUATE Survival associations

Background

- Oncology treatment effectiveness is commonly evaluated according to the initially assigned or initiated therapy. However, many contemporary treatments involve longitudinal strategies, and treatment initiation does not necessarily translate into delivery of subsequent therapeutic components

Objective

- To develop and apply a harmonized registry-based framework to quantify the gap between treatment initiation and actual pathway delivery across different malignancies

HARMONIZED PATHWAY FRAMEWORK

BWCR Database

Population-based

Treatment records

Longitudinal follow-up

Multiple tumor types

Lung Cancer
Induction -> Maintenance
- eKN189 (mNSCLC)
- eIMP133 (ES-SCLC)

Colorectal Cancer
First-line systemic therapy -> subsequent systemic therapy

Ovarian Cancer
- Surgery -> chemotherapy
- Neoadjuvant chemotherapy -> Interval surgery

Quantifying the assignment-to delivery gap

Treatment initiation ≠ pathway delivery

Endpoints:

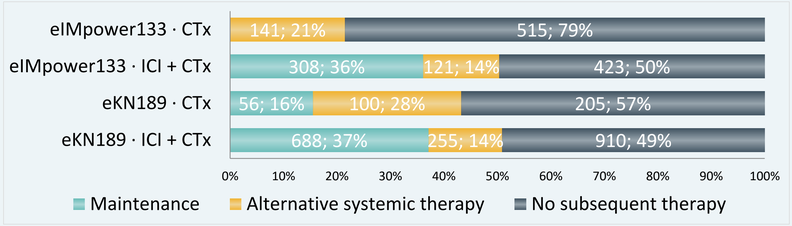
- **Primary**: Delivery of the next predefined treatment component within a disease-specific window; alternative or no subsequent therapy where applicable
- **Secondary:** Overall survival (OS) by realized pathway

Statistical analysis:

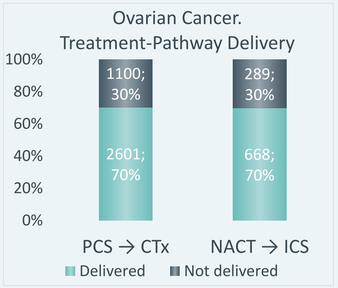
- Descriptive transition proportions; multivariable multinomial or binary logistic regression for pathway transitions; Kaplan-Meier and adjusted Cox models for OS. Landmark analyses to address time-dependent selection.

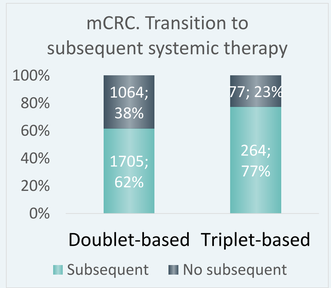
Conflict of interest: No conflict of interest

TREATMENT-PATHWAY DELIVERY



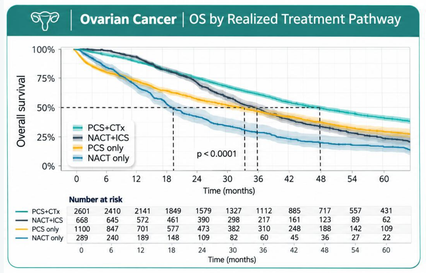
- **Lung:** Only ~36–37% of patients with ICI + CTx transitioned to maintenance

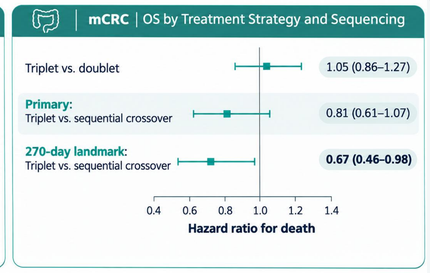




- Treatment initiation frequently did not translate into delivery of subsequent treatment components.

SURVIVAL ASSOCIATIONS OF REALIZED TREATMENT PATHWAYS



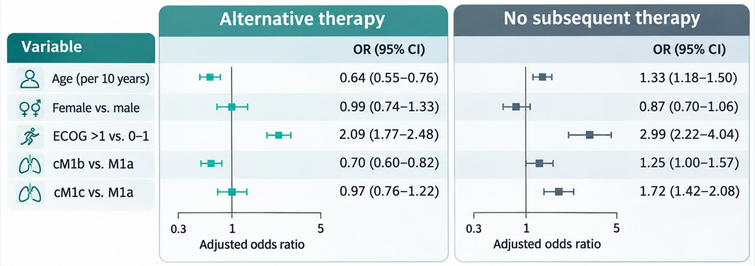


- Longer OS with completed treatment pathways
- associations persisted in landmark analyses.
- No OS benefit from upfront triplet over doublet therapy
- survival association emerged in the landmark sequencing analysis

Realized treatment pathways provide additional insights beyond initial treatment selection. However, survival associations require careful consideration of time-dependent selection and potential immortal-time bias

PREDICTORS OF TREATMENT-PATHWAY TRANSITIONS

Multinomial logistic regression · eKN189, ICI + chemotherapy



Reference outcome: maintenance therapy

- **Older age:** lower odds of alternative therapy (OR 0.64 per 10 years) but higher odds of no subsequent therapy (OR 1.33).
- **Poor performance status (ECOG >1):** strongly associated with both outcomes
- **Metastatic burden:** M1b associated with lower odds of alternative therapy, M1c was associated with higher odds of no subsequent therapy
- **ES-SCLC (ICI + CTx):** Similar associations with no subsequent therapy were observed for older age, poor ECOG, and greater metastatic burden
- **Chemotherapy-only cohorts**: Different patterns of pathway transitions

1 QUANTIFY
Substantial gaps between treatment initiation and delivery of subsequent components were observed across all three malignancies

2 EXPLAIN
Alternative therapy and no subsequent treatment showed distinct patient profiles, which binary completion measures would obscure

3 EVALUATE
Realized treatment pathways were associated with survival, but interpretation requires accounting for time-dependent selection

TAKE-HOME

- **Initial treatment does not guarantee pathway delivery**
- **Distinct transitions reflect different patient profiles**
- **Survival comparisons require time-aware analyses**

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