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Clinical Oncology Congress
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رادیوبیولوژی و پرستاری انکولوژی

29-31 January 2025
Olympic hotel,Tehran ,IRAN

Advancing Precision Oncology:

Interpreting NGS Data for Optimal Patient Outcomes

Integrating Genomic Insight into Cancer Care with Emerging Trial Evidence

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OMID MEDICAL GENETICS
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Panel introduction

- **Dr. Ramin Ajami, MD, MSc, PGDip ,FRCPc, CtMgr**
- **Dr. Timothy Robert Crook, BSc, PhD, MBBS, FRCP**
- **Dr. Andy Gaya, PhD, MBBS, FRCP, FRCR**
- **Dr. Amoo Heydari, MD, PhD**

Panel flow

- **Opening Remarks** by **Dr. Alireza Amouheidari,**
- **Welcome and introduction of the UK speakers: Dr Ramin Ajami**
- **Presentation 1**: **Dr. Timothy Crook (15min)**
  - Topic: "Advancements in Precision Oncology: NGS Data & Real case scenarios"
- **Panel Q&A Moderated by Dr. Ramin Ajami & Dr Amouheidari (5-7min)**
- **Presentation 2**: **Dr. Andy Gaya (7 min)**
  - Topic: “GI Cancer NGS and Clinical Updates”
- **Audience Q&A from the panel (5-7min)**
- **Presentation 3: Dr Ramin Ajami (<5min)**
  - Topic: "Recent studies on NGS-driven therapy decision “
- **Interactive Q&A by audience (7 min)**

Presentation # 1

Dynamic Cancer NGS:
Liquid Biopsy, Targetable Variants, MRD, and the Importance of Continuous Sampling

Dr Timothy Robert Crook

Consultant Medical Oncologist

Q&A session

Q1: **What criteria do you use to evaluate the trustworthiness and validity of data generated by an NGS test, and how do you determine its reliability compared to other available tests?**

1. Compare the turnaround time of the test to others on the market, focusing solely on speed as the primary factor for reliability.

2. Rely on the test provider's marketing claims and overall popularity within the industry.

3. Assess the test's analytical and clinical validity, including sensitivity, specificity, and reproducibility, while ensuring the lab is accredited by organizations like CLIA or CAP and utilizes the latest validated data set.

4. Choose the test based on its cost-effectiveness, regardless of published validation studies or quality benchmarks.

Q&A session

Q2.**Who is a candidate for NGS, and when should it be considered?**

1. Patients with advanced or metastatic cancers, rare tumors, or tumors with no known standard-of-care treatments where actionable mutations could influence therapy regardless of their treatment line.

2. Patients who have early-stage cancers with clear treatment protocols, where standard diagnostic methods provide sufficient information.

3. At the patients' request

4. Patients who have already undergone multiple rounds of ineffective therapies, as a last-resort option only.

Q&A session

Q3. **How do you interpret NGS data?**

- Do you rely solely on the suggested drug options, or do you consider alternative treatments?

1. Avoid the suggested drugs entirely because they mostly off-licence

2. Solely rely on the suggested drug options provided in the NGS report, as they are the most reliable and pre-validated choices.

3. Choose treatments based on the lowest-cost drugs listed in the NGS report to minimize patient expenses.

4. Consider both the suggested drug options and alternative treatments based on clinical context, patient-specific factors (e.g., comorbidities, prior treatments), and drug availability, while considering on evidence-based options and MDT discussion

Q&A session

Q4. **How is NGS used to enhance radiotherapy (RTx) strategies?**

1. NGS identifies mutations in DNA repair pathways (e.g., BRCA1/2, ATM) that indicate radiosensitivity, allowing personalized dose adjustments and enhanced RTx effectiveness

2. NGS is used primarily to assess genes that may increase chance of 2nd primary.

3. NGS predicts and helps abscopal effect

4. NGS cannot help/determine response to TNT or adjuvant/Neoadj treatments

DISCUSION

- Which drugs do you choose, and what factors influence your decision?
- Would you consider off-licenced therapies? How and Why?
- How about re-purposed Drugs?

Presentation # 2

What is your perspective on recent trials and publications regarding NGS-directed treatments

Dr Andy Gaya

Clinical Oncologist

Presentation # 3

What is your perspective on recent trials and publications regarding NGS-directed treatments

Dr Ramin Ajami
Medical Oncologist

Widespread Adoption of Precision Anticancer Therapies After Implementation of Pathologist-Directed Comprehensive Genomic Profiling Across a Large US Health System

Alexa K. Dowdell, MS[1,2]; Ryan C. Meng, MS[1,2]; Ann Vita, BS[1]; Bela Bapat, MS[3]; Douglas Hanes, PhD[1]; Shu-Ching Chang, PhD[1]; Lauren Harold, BS[1,2]; Cliff Wong, PhD[4]; Hoifung Poon, PhD[4]; Brock Schroeder, PhD[3]; Roshanthi Weerasinghe, MPH[1]; Rom Leidner, MD[1,2]; Walter J. Urba, MD, PhD[1,2]; Carlo B. Bifulco, MD[1,2]; and Brian D. Piening, PhD[1,2]

DOI https://doi.org/10.1200/OP.24.00226

Purpose

Impact of CGP in Rx decision making

Key Study Features

Population: 3,216 patients

Metrics: Actionability of biomarkers, therapy outcomes, and overall survival (OS).

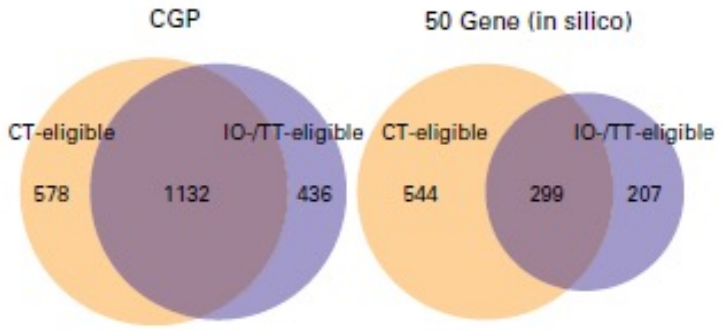
Clinical Relevance

Faster and more precise therapy decisions.

Widespread Adoption of Precision Anticancer Therapies After Implementation of Pathologist-Directed Comprehensive Genomic Profiling Across a Large US Health System
Alexa K. Dowdell, Ryan C. Meng, Ann Vita, Bela Bapat, Douglas Hanes, Shu-Ching Chang, Lauren Harold, Cliff Wong, Hoifung Poon, Brock Schroeder, Roshanthi Weerasinghe, Rom Leidner, Walter J. Urba, Carlo B. Bifulco, Brian D. Piening JCO Oncology Practice 2024 20:11, 1523-1532

Actionability

- **49%** with actionable biomarkers
- 67% CGP vs 33% SP



Overall Eligibility	No. of Patients: CGP (N = 3,216)	No. of Patients: in silico (N = 3,216)	*P*
CT-eligible only	578 (18.0)	544 (16.9)	*P* = .264
IO-/TT-eligible only	436 (13.6)	207 (6.4)	*P* = <.001
Eligible for both CT and IO/TT	1,132 (35.2)	299 (9.3)	*P* = <.001
Eligible for none	1,070 (33.3)	2,166 (67.4)	*P* = <.001

Treatment Results:

- **52%** of CGP-tested patients received TT or IO
- Median OS for IO/TT: **25 months**, significantly higher than chemotherapy (17 months).

- Clinical trial eligibility doubled with CGP (53% vs. 26%).

Personalized Salvage Treatments in Advanced Refractory Head and Neck Squamous Cell Carcinomas

Study Cohort:

- **31 patients** (27 males, 4 females).
- Median age: **47 years** (range: 35–66).
- Previous Rx
  - Taxane/platinum-refractory, metastatic/non-resectable SCCHN.
  - Progressed after **1–4 prior systemic treatments** (median: 2).

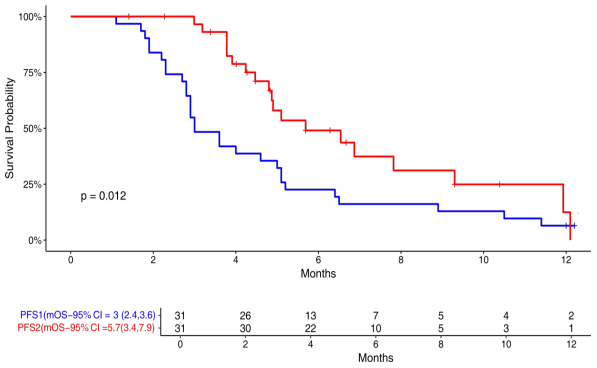
Selection of personalized salvage treatments in advanced refractory head and neck squamous cell carcinomas via multi-omics tumor profiling
Ajami, R. et al. Annals of Oncology, Volume 35, S642 DOI: 10.1016/j.annonc.2024.08.973

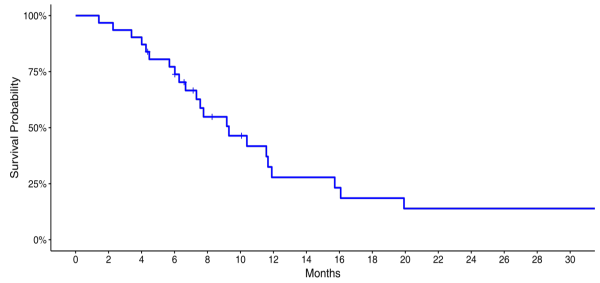
Results:

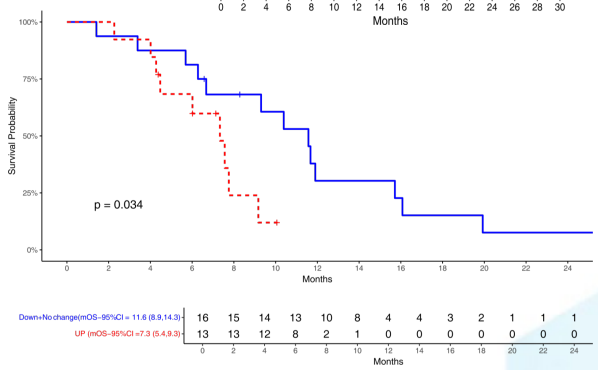
- **Treatment Response**:
  - Partial Response (PR): **15 patients**.
  - Stable Disease (SD): **14 patients**.
  - **Objective Response Rate (ORR): 48.4%.**
  - **Disease Control Rate (DCR): 93.5%.**

- **Survival**:
  - mPFS2: **5.7 months** (1.9x longer than PFS1 on previous treatments).
  - mOS: **9 months**.

- **Adverse Events**:
  - 8 patients experienced transient Grade III treatment-related adverse events (oral mucositis, hypertension, etc.).
  - No Grade IV o V events







Questions time!