

Molecular profiling of cancers of unknown primary site (CUP): paradigm shift in management of CUP

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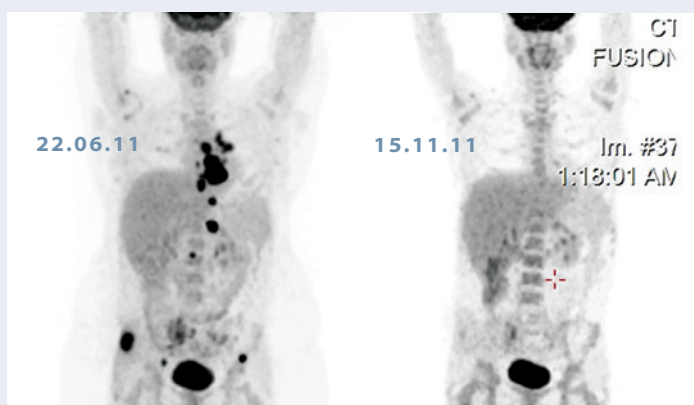
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Patients and Methods

- >1,459 CUP tumours analysed
 - 45% Male, average age 60.8
 - 55% Female, average age 61.2
 - Data from a >50,000 patient database
 - 6,400 physicians
 - 50 states
 - 30 countries
- Multi-platform testing approach
 - IHC
 - FISH
 - CISH
 - Sequencing
 - Next-Generation
 - Sanger
 - qPCR
- Molecular Profiling was performed to detect biomarkers predictive of response to various chemotherapeutic agents.

Case Illustration

1 / 7 / 2011 – initiated treatment with erlotinib (150 mg/day), based on the report; Developed severe acne formic rash in face and upper back; CT was done in mid-august and showed a major partial response with rebuilding of the sacral bone. PET CT done in 11/2011 confirmed a near CR.



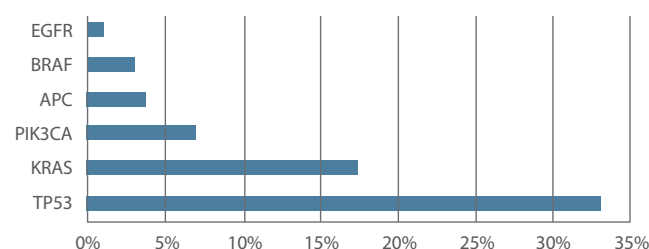
Courtesy of Dr. N. Efrat Ben-Baruch, Israel

“The advent of targeted therapeutics and companion diagnostics have led to a paradigm shift in the treatment of solid tumours. Increasingly, tissue of origin and histological subtype are insufficient, and further evaluation for genetic alterations that are therapeutically amenable to targeted therapies is mandated.”

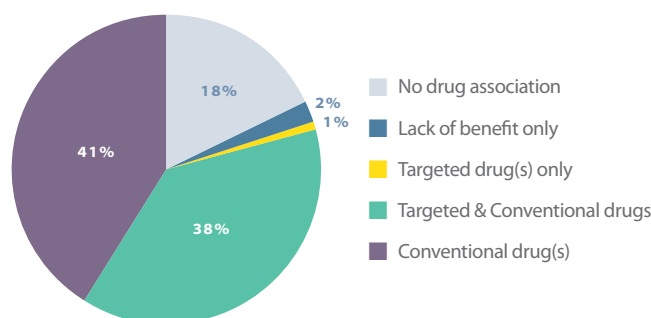
– Tan DSW et al., JCO 2013;31:e237

Key Findings

Top/Key Alterations



Drug Associations Based on Biomarker Test Results



Targeted drugs include TKIs, mAbs, anti-steroidals, mTOR inhibitors. **Conventional drugs** include alkylating agents, anthracyclines, camptothecans, pyrimidine antagonists, antimetabolites, taxanes, etc.

Conclusion

- Predictive biomarker molecular profiling of CUP identifies actionable targets in ~ 80% of all cases (70% have more than one biomarker/drug association detected).
- Therapeutic agents based on predictive biomarkers include many drugs not considered traditionally in CUPs.
- Rare incidences of site/lineage-specific biomarkers may help improve management of CUP patients.