Session Ten: Precision Cancer Prevention

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State of the Science Summary/Key Session Points

- Identification of new agents to treat pre-cancer is underway, but must be matched to the early drivers responsible for progression.
- Need to identify the hallmarks of premalignant disease and must select “master molecule” hitting as many hallmarks as possible.
- Consider using “reverse migration” utilizing some agents already developed for cancer treatment to treat pre-cancers.
- Aspirin (NSAIDs) have some efficacy in certain cancers and may be more effective if its use could be tied to certain biomarker analysis to achieve “real” precision cancer prevention.
- Combination trials targeting lesions in high risk patients (FAP) are possible to conduct and show considerable promise for unmet need.
Current Limitations/Obstacles

- Limited number of agents being developed for pre-cancers
- Some trials take an extremely long time to complete when looking at cancer as a clinical outcome
- Not much prospective data yet evaluating the role of the microbiome
- Need to evaluate the “whole patient” and all of the benefits (and risks) from using certain agents to treat premalignant disease
- Need more discovery science on understanding all of the hallmarks of pre-cancers
Future Opportunities/Areas of Growth

- Must develop a clear cut rationale for selection of the most effective agents to target early drivers of cancer
- Must better understand the biology of premalignant disease
- Consider cancer prevention by delaying cancer progression
- Need additional trials evaluating aspirin using molecular markers and evaluating the role of the microbiome
- Precision cancer prevention is possible and we must educate everyone about our successes and ongoing activity
- Premalignant -omic atlas must be a “high” priority
What can AACR and other organizations do to best support this area?

- Support inclusion of prevention science in the current cancer initiatives led by the White House (moonshot) need to invest in the “crawlerway”

- Need to “re-brand” prevention as a form of early treatment to intercept cancer before it develops

- Support discovery science needed to understand the biology of premalignant disease

- Need implementation plan and more work in identifying the costs of a precision medicine prevention strategy

- Allow for prevention trials and/or clinical studies to be presented at the plenary sessions at the annual AACR meeting
Robert F. Kennedy 1966:

“Few will have the greatness to bend history itself; but each of us can work to change a small portion of events, and in the total of all those acts will be written the history of this generation.”