First 500 Patients of IRONMAN: International Registry for Men with Advanced Prostate Cancer

Daniel George, Lorelei Mucci, Dana Rathkopf, Kim Chi, Tian Zhang, Pedro Barata, Heather Cheng, Mark Pomerantz, Robert Dreicer, Aijai Alva, Michael Ong, Elisabeth Heath, Deborah Enting, Young Whang, Sebastien Hotte, Anders Bjartell, Andre Fay, Aurelius Omlin, Ian Davis, Theresa Gold, Michael Jordan, Terry Hyslop, Travis Gerke, Paul Villanti, Jake Vinson, Philip Kantoff

Duke University, Harvard TH Chan School of Public Health, Memorial Sloan Kettering Cancer Center, BC Cancer Agency, Duke University, Tulane University, University of Washington, Dana-Farber Cancer Institute, University of Virginia, University of Michigan, Ottawa Hospital Cancer Centre, Wayne State Karmanos Cancer Center, Guy's and St. Thomas' NHS Foundation Trust , University of North Carolina, Juravinski Cancer Centre, Skåne University Hospital, Centro de Pesquisa em Oncologia, Kantonsspital St. Gallen, Monash University, the Prostate Cancer Clinical Trials Consortium, the Prostate Cancer Clinical Trials Consortium, Duke University, Harvard TH Chan School of Public Health, the Movember Foundation, the Prostate Cancer Clinical Trials Consortium and Memorial Sloan Kettering Cancer Center.

Background: The treatment landscape for advance prostate cancer, including metastatic hormone sensitive prostate cancer (mHSPC) and (M0)/ (M1) castration resistant prostate cancer (CRPC) is rapidly evolving. There is an urgent need to identify the optimal treatment patterns and predictive markers for advanced disease, including matching of patients to molecular subtypes to optimize overall survival (OS) and patient reported outcomes measures (PROMs).

Methods: The IRONMAN registry is an international, population-based, prospective registry set to accrue at least 5,000 men with advanced prostate cancer. Participants are recruited internationally with approximately 50% planned for North America. Detailed data are collected from patients at study enrollment and then during follow-up, for a minimum of three years. Patients are followed prospectively for OS, clinically significant adverse events, comorbidities, changes in cancer treatments, and PROMs. PROMs questionnaires are collected at enrollment, every three months for the first and second year then every six months. Physician Questionnaires are collected at enrollment, time of first change in treatment, at each subsequent change of treatment, and discontinuation of treatment. Research blood is collected at enrollment and at each change in treatment due disease progression or at one-year follow up visit if stable.

Results: The first 500 subjects were accrued between 21/JUL/17 and 10/JAN/2019 across the United States (404, 81%), Canada (59, 12%), Australia (29, 6%), and Switzerland (8, <2%). 284 (57%) men had mHSPC, 207 (41%) had CRPC and 9 (2%) are not reported. 363 (73%) men were White, 62 (12%) were Black, 32 (6%) were other races/ethnicities and 43 (9%) were not reported. Data reporting for the first treatment on study is complete in 60% of cases; of these men, 65 (47%) mHSPC and 64 (60%) CRPC men were treated with an androgen signaling inhibitor (with or without ADT) in the United States; by comparison, 8 (23%) mHSPC and 17 (85%) CRPC men were treated with an androgen signaling inhibitor (with or without ADT) in Canada, Australia and Switzerland. 46 (33%) mHSPC men and 20 (18%) CRPC men were treated with ADT alone in the United States and 19 (54%) mHSPC men and 2 (5%) CRPC men were treated with ADT alone in Canada, Australia, and Switzerland. Compliance for Physician Questionnaire completion at baseline is 79%. Compliance for baseline blood collection is 87%.

Conclusions: The study is currently active at 56 sites across 9 countries. 931 out of 5000 planned subjects have been enrolled. Accrual is greater in mHSPC patients than anticipated. Differences in treatment patterns are already emerging with more androgen signaling inhibitor use in the mHSPC setting in the US than ex-US. Minority accrual requires continued emphasis. The study is expanding into additional countries and plans to activate another 50+ sites.

Conflict of Interest:

DG - (Speakers' Beureau – Bayer, Exelixis, Sanofi; Honoraria – Bayer, EMD Serono, Exelixis, Ipsen, Michael J Hennessey Associates, Pfizer, Sanofi, URoGPO, UroToday; Consulting/Advisory – Astellas, AstraZeneca, Bayer, Bristol-Myers Squibb, Capio Biosciences, Flatiron Health, Janssen, Leidos Biomedical Research, Merck Sharp & Dohme, Michael J Hennessey Associates, Modra Pharmaceuticals B.V., Myovant Sciences, Inc., Nektar Therapeutics, Physician Education Resource, Pfizer, Sanofi, Vizuri Health Sciences, LLC.; Research Funding – Acerta Pharmaceuticals (Inst), Astellas (Inst), Bayer (Inst), Bristol-Myers Squibb (Inst), Calithera (Inst), Exelixis (Inst), Janssen (Inst), Pfizer (Inst), Sanofi (Inst); Travel/Accommodations/Expenses – Bayer, Exelixis, Sanofi, UroToday; Other Relationship – American Association for Cancer Research (Senior Editor), Axess Oncology (Independent Contractor), Millennium Medical Publishing Clinical Advances in Hematology & Oncology (Co-Editor-in-Chief), NCI (Steering Committee)

DR - (Consulting/Advisory – Bayer, Genentech/Roche, Janssen Oncology, TRACON Pharma; Research Funding - AstraZeneca (Inst), Celgene (Inst), Ferring (Inst), Genentech/Roche (Inst), Janssen Oncology (Inst), Medivation (Inst), Millennium (Inst), Novartis (Inst), Taiho Pharmaceutical (Inst), Takeda (Inst), TRACON Pharma (Inst), Novartis (Inst), Pfizer (Inst).

KC - (Grant support and Honoraria – Astellas Pharma, Janssen, Sanofi, AstraZeneca, Bayer, Essa Phrma, Pfizer, Roche)

TZ - (Leadership – Capio Biosciences (IFM); Stock/Other Ownership – Capio Biosciences (IFM); Honoraria – Exelixis, Genentech/Roche; Consulting/Advisory – Bayer, Janssen, Genentech/Roche, Sanofi, Exelexis, AstraZeneca, Pfizer, Bristol-Myers Squibb, Foundation Medicine, Pharmacyclics, Amgen, Merck; Speakers' Bureau – Exelixis, Genentech/Roche, Genomic Health, Sanofi/Avenis; Research Funding – Janssen (Inst), Acerta Pharma (Inst), Pfizer (Inst), Merrimack (Inst), Stem CentRx (Inst), Novartis (Inst), OmniSeq (Inst), Personal Genome Diagnostics (Inst), Regeneron (Inst), Merck (Inst), Mirati Therapeutics (Inst); Patents/Royalties/Other IP - Circulating tumor cell novel capture by c-MET technology (Inst), Prochelators as Targeted Prodrugs for Prostate Cancer (Inst); Travel/Accommodating/Expenses – Acerta Pharma, Genomic Health, AstraZeneca)

PB - (Consulting/Advisory – Bristol-Myers Squibb, Pfizer, EMD Serono, Eisai; Speakers' Bureau – Caris; Research Funding – Genomic Health (Inst), BlueEarth Diagnosis (Inst); Travel/Accommodations/Expenses – Bristol-Myers Squibb, Pfizer, EMD Serono, Eisai)

HC - (Research Funding – Astellas (Inst), Clovis (Inst), Inovio (Inst), Janssen (Inst), Medivation (Inst), Sanofi (Inst)).

RD - (Consulting/Advisory – Pfizer, Astellas, Janssen, Vizuri, Seattle Genetics, Easai, Genentech/Roche, AstraZeneca; Research Funding – Exelecis, Janssen, Merck, Genentech)

AA - (Consulting/Advisory – Merck, AstraZeneca; Research Funding - Clovis Oncology (Inst), Merck (Inst), Bristol-Myers Squibb (Inst), AstraZeneca (Inst), Bayer (Inst), Progenics (Inst), Janssen (Inst), Genentech (Inst), Esanik, Ionis (Inst), and Prometheus (Inst))

MO - (Consulting/Advisory – Janssen; Research Funding – AstraZeneca; Travel/Accommodations, Expenses – Janssen)

EH - (Honoraria – Bayer, Dendreon, Sanofi, Seattle Genetics ; Consulting/Advisory – Agensys; Speakers' Bureau – Sanofi; Research Funding – Takai Pharmaceuticals, Seattle Genetics, Agensys, Dendreon, Genentech/Roche, Millennium, Caris Life Sciences, Boehringer Ingelheim, GlaxoSmithKline, Merck Sharp & Dahme, Plexxikon, Corcept Therapeutics Fortis, Astellas Pharma, Medivation, AstraZeneca, Ignyta,

Synta, Esanik, Zenith Epigenetics, Oncolys BioPharma, Curemeta, Bristol-Myers Squibb, eFFECTOR Therapeutics, Celldex, Inovio Pharmaceuticals, Celgene, Zenith Epigenetics, Merck; Other Relationship – Caris Centers of Excellence)

DE – (Honoraria – Pfizer, AstraZeneca, Merck Sharp & Dohme, EUSA Pharma; Consulting/Advisory - Pfizer, AstraZeneca, Merck Sharp & Dohme, EUSA Pharma; Travel/Accommodations/Expenses – Merck Sharp & Dohme, EUSA Pharma)

YW – (Research Funding – Clovis Oncology, Constellation)

SH – (Honoraria – Ipsen, Eisai, Bayer, Pfizer; Consulting/Advisory – Bayer, Janssen, Bristol-Myers Squibb, Pfizer, Eisai, Ipsen, Astellas, Merck, Roche; Research Funding – Janssen (Inst), Astellas (Inst), Bristol-Myers Squibb (Inst), Merck (Inst), Astra Zeneca (Inst), Eisai (Inst), Roche (Inst), Ayala (Inst), Bayer (Inst)

AB – (Stock/Other ownership – WntResearch, LIDDS Pharma, Glactone Pharma; Consulting/Advisory – Astellas, Bayer, Janssen, Active Biotech, Incyte; Researching Funding – Ferring (Inst), Astellas (Inst), Bayer (Inst)

AO – (Consulting/Advisory - Astra Zeneca, Astellas, Bayer, Janssen, Molecular Partners, MSD, Pfizer, Roche, Sanofi Aventis; Speakers' Bureau – Bayer, Astellas; Research Funding – Janssen (Inst), Teva (Inst); Travel/Accommodations/Expenses - Astellas, Bayer, Janssen, Sanofi Aventis)

ID – (Research Funding – Astellas (Inst), EMD Serono (Inst), Hoffman La Roche (Inst), Eisai (Inst), Merck Sharpe & Dohme (Inst), Bayer (Inst), AstraZeneca (Inst), Gaurdant Health (Inst), Pfizer (Inst), Bristol-Myers Squibb (Inst), Aragon Pharmaceuticals (Inst); Patents/Royalties/Other IP- International Patent Application No: PCT /US2004/032147; Title: In vivo efficacy of NY-ESO-1 plus adjuvant. Inventors: J Cebon, I Davis, W Chen, S Green. Applicants: CSL Limited; Ludwig Institute For Cancer Research. Filed 30 September 2004. Published No. WO2005/032475; Issue Date: 14 April 2005. Status: AU2004277402 Granted 25 November 2010. Other jurisdictions under examination; Other relationship – ANZUP Cancer Trials Group (Director & Chair))

TH – (Consulting/Advisory – Abbvie; Travel/Accommodations/Expenses – Abbvie)

PK - (Leadership – Context Therapeutics; Stock/Other Ownership – Placon, Druggablity Technologies, Tarveda Therapeutics, Context Therapeutics, Seer; Consulting/Advisory – Baravian Nordic, Janssen, Merck, OncoCellMDX, Sanofi, Genetech/Roche, Tarveda Therapeutics, Druggablity Technologies, Progenity, Thermo Fisher Scientific, Context Therapeutics, GE Healthcare, New England Research Institutes; Patents/Royalties/Other IP - Method for Predicting the Risk of Prostate Cancer Morbidity and Mortality, Predicting and Treating Prostate Cancer, Methods for Predicting Likelihood of Responding to Treatment, Chromosome Copy Number Gain as a Biomarker of Urothelial Carcinoma Lethality, Drug Combinations to Treat Cancer, Somatic ERCC2 Mutations Correlate with Cisplatin sensitivity in muscle-invasive Urothelial Carcinoma (Patent), Up-to-Date Royalties, Wolters Kluwer Royalties, Methods and Kits for Determining Sensitivity to Cancer Treatment, Composition and Methods for Screening and Diagnosis of Prostate Cancer; Travel/Accommodations/Expenses - Druggablity Technologies)

Funding Acknowledgements: Movember Foundation, Astellas, AstraZeneca, Bayer, Sanofi-Genzyme, Amgen