Prostate cancer (PrCa) is one of the most heritable human cancers, as almost 60% of the PrCa risk is attributable to genetic factors. Inherited mutations in several genes involved in DNA damage response and repair (DDR) have been reported to predispose men to prostate cancer; this includes mutations in BRCA2, the genetic event known to confer the greatest risk of the disease. Recent studies have revealed that germline deleterious mutations in DDR genes are present in 8-12% of patients with prostate cancer. These mutations in DDR genes are present in 8-12% of patients with prostate cancer, and they are an independent prognostic factor for the disease. These observations have come full-circle with the development of Poly ADP-ribose polymerase (PARP) inhibitors to treat advanced prostate cancer. Due to the high prevalence of DDR germline mutations and their impact on clinical outcomes following conventional treatments for metastatic prostate cancer, the study included 419 mCRPC patients. BRCA2 (33%), ATM (19%) and BRCA1 (9%) were the most commonly mutated genes. Pathogenic variants in all of the 107 analysed genes were identified in 15% of patients. Carriers and non-carriers presented similar characteristics at baseline, but carriers, particularly BRCA2 carriers, progressed earlier and lived shorter lives than non-carriers despite the administered treatments. This is a prospective multicentre cohort study involving 38 Spanish centres within the PROCURE network (see below).

SWITCH Phase II study. In 2017, we also presented the final results of the SWITCH study: a multicentre, single arm, open label, single-stage, phase II study. Clinically stable mCRPC patients who had PSA and/or limited radiographic progression after at least 12-weeks on Abiraterone plus prednisone, switched to Abiraterone plus dexamethasone. PSA50 response rate was 34.6%. Median time to biochemical and radiological progression were 5.3 and 11.8 months, respectively. Patients with AR gain detected in plasma ctDNA did not respond to the switch, while patients with AR normal status benefited the most. The change of prednisone to dexamethasone in protocol sustained polyamine metabolism in prostate cancer, which may contribute to biochemical and radiological disease control. This study showed that using a validated panel of plasma ctDNA biomarkers and offering a new treatment option for refractory patients with mCRPC can improve disease control and patient satisfaction.

PROCURE biomarkers platform. This network, started by our Group in 2013, involves 63 participating oncology departments across Spain. Over 900 patients have been enrolled in the 5 currently active prospective studies (PROCURE, PROSTAC, PROSAIB, PROSENZA, PRORADIUM). This network has attracted international attention and partners from Italy (MEET-UCO group) and Australia (Peter McCallum Cancer Centre) have joined us this year.

**OVERVIEW**

**REFERENCES**

- **Publications**

- **Awards and recognition**
  - Elena Castro: awarded the 2017 Stewards of Excellence Award, 4th Androgen Project Awards, Madrid, Spain.
  - Faculty Board Member, 2017 EORTC-EC-FA-CO-AACR-ESMO Methods in Clinical Cancer Research Workshop, Netherlands.
  - Elena Castro: awarded the 2017 Stewards of Excellence Award, 4th Androgen Project Meetings in Prostate Cancer, Brasilia, Brazil.
  - Facultad de Medicina, University of Granada, Spain.
  - Faculty, ESMO Preceptorships in Prostate Cancer.
  - Núria Romeros received an "ESMO 2017 Merit Award". ESMO Congress, Spain.
  - Rebecca Llorens was awarded "Best Communication Award, 4th Androgen Project Meetings in Prostate Cancer, Best Poster Award, SDIP annual Meeting, Spain."