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PROSTATE CANCER

MODELLING INTRADUCTAL CARCINOMA

A new study shows that intraductal carcinoma of the prostate (IDCP) is retained in patient-derived xenografts (PDXs) and can withstand androgen deprivation.

IDCP is a rare pathological feature, but has been shown to be more common in men with high-risk prostate cancer. In a new study, Porter *et al.* investigated the functional relevance of IDCP in disease progression. In a retrospective analysis, IDCP was identified in 63% of primary tumour samples from 38 men who subsequently developed metastases. At a median follow-up period of 4.9 years from diagnosis of castration resistance, median overall survival of patients with and without IDCP was not significantly different.

The team then explored the biological behaviour of IDCP using PDXs that were derived from seven prostatectomy tissues. Characterization of tumours, which had been established under androgen supplementation, showed that IDCP was present in PDXs from all seven patients and that it retained characteristic histological features. In addition, the average volume and percentage of proliferating cells (measured by Ki67 expression) was similar between IDCP and adenocarcinoma. Evaluating the effect of androgen deprivation, the researchers found that IDCP was retained in PDXs from five of seven men and that the percentage of proliferating cells was significantly lower than in control mice ($P < 0.05$). Furthermore, PSA expression was reduced and the androgen receptor (AR) was mostly localized to the cytoplasm. Subsequent androgen restoration resulted in increased lesion size, nuclear localization of the AR, and restoration of PSA and Ki67 expression in PDXs in five of seven men.

Clemens Thoma

ORIGINAL ARTICLE Porter, L. H. *et al.* Intraductal carcinoma of the prostate can evade androgen-deprivation, with emergence of castrate tolerant cells. *BJU Int.* http://dx.doi.org/10.1111/bju.14043 (2017)