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Stereotactic ablative radiotherapy (SABR) of oligometastatic prostate cancer: true clinical value or doing the feasible?

Metastatic prostate cancer is an incurable condition with limited life expectancy despite numerous therapeutic advances over the last few years. As of late, the first-line treatment of widely metastatic prostate cancer typically involves androgen deprivation combined with early docetaxel chemotherapy, an approach that improves survival by >1 year compared to androgen deprivation alone. However, the survival benefit of this strategy remains to be determined in patients with low metastatic burden, including men with *de novo* oligometastatic prostate cancer. The latter is a state between loco-regional and widespread metastatic disease, defined by ≤5 metastatic lesions. Aside from its *de novo* existence oligometastatic prostate cancer can be induced by effective systemic therapy, or it may present as oligoprogression (i.e. a clinical situation where ≤5 metastatic tumor sites progress, while all other metastases are controlled by a given systemic therapy). SABR is very intense and focused external-beam radiotherapy used to eradicate primary tumors and metastases with high precision and relatively mild toxicity. As such, SABR is increasingly considered for the treatment of men with oligometastatic prostate cancer to delay the initiation of systemic therapy or of the next line of treatment, and to possibly improve survival. However, there is a lack of high-level randomized outcome data, and there are no markers predicting patients that derive only limited benefit from SABR of oligometastases because of early and widespread metastatic progression following treatment. In fact, it remains to be seen if oligometastatic versus widely metastatic malignancies are distinct biological entities. I will discuss some of the challenges of this novel treatment paradigm by summarizing current research activities of SABR for different stages of metastatic prostate cancer at Sunnybrook Odette Cancer Centre.