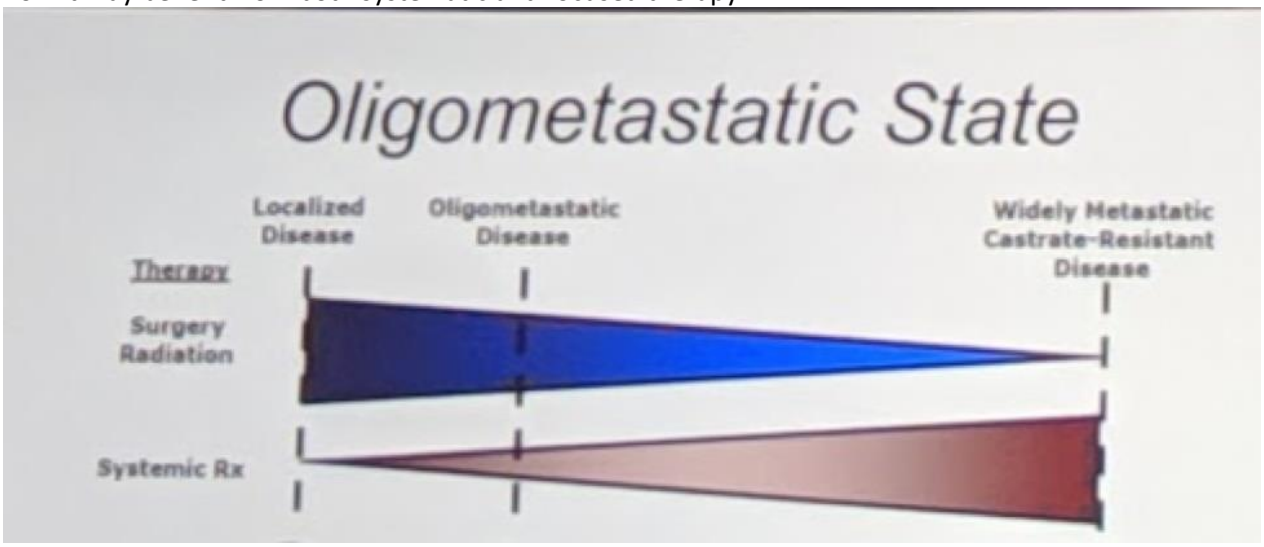
SUO 2018: PSMA-Guided Metastasis Directed Radiation

Phoenix, Arizona (UroToday.com) Dr. Tran, a radiation oncologist from Johns Hopkins University, provided the second talk of this section, focusing more on PSMA-guided metastasis-direction radiation, and specific, SBRT (Stereotactic Body Radiation Therapy) and SABR (Stereotactic Ablative Radiotherapy) – focal therapy with minimal adjacent tissue damage.

First, he noted that the field of oligometastatic prostate cancer is growing rapidly – but poorly defined. By definition, it is an "intermediate state of cancer spread between localized and widespread disease." In the following slide, which I thought was excellent, he highlights where it lies on the continuum – and how it may benefit from both systematic and focused therapy.



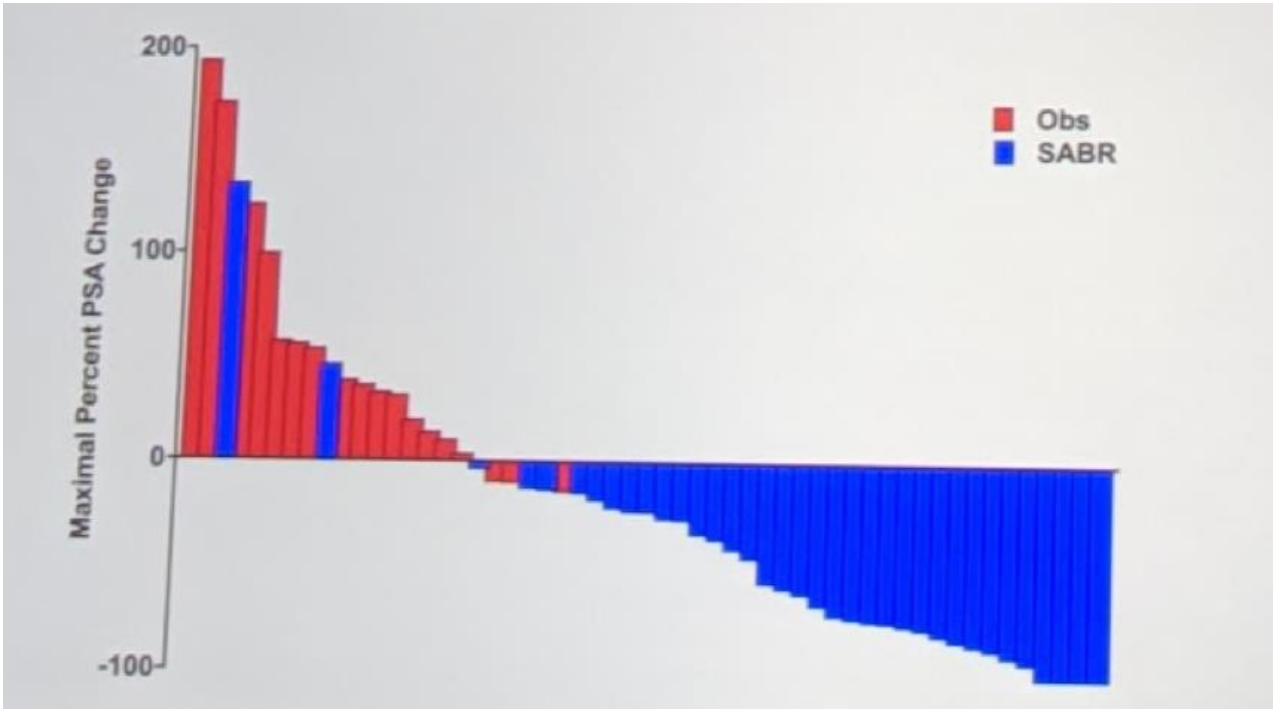
His next question is whether metastasis directed therapy (MDT) can affect the natural history of the disease – by treating the macro-metastases, can you impact the micrometastases' natural history? Does this prevent clonal progression from the metastases itself?

One such method is through radiation. He did allude to the fact that surgical MDT is also an option, but he will focus on the radiation approach. Specifically, SBRT/SABR are highly focused radiation concentrated on tumors with resulting very low doses to adjacent tissue – and therefore well tolerated with minimal side effects. It is given as a single of hypofractionated (~5) doses and is done with very precise delivery. It is ablative – cell cycle curves and clinical data support multi-target death, it may result in increased antigenicity of the necrotic tumor (and thereby assist in systematic therapy), or serve as an in situ vaccine.

He then focused his talk on the Baltimore ORIOLE trial, which is being spearheaded by Johns Hopkins. The full title is Observation vs. Stereotactic radiation for oligometastatic prostate cancer.

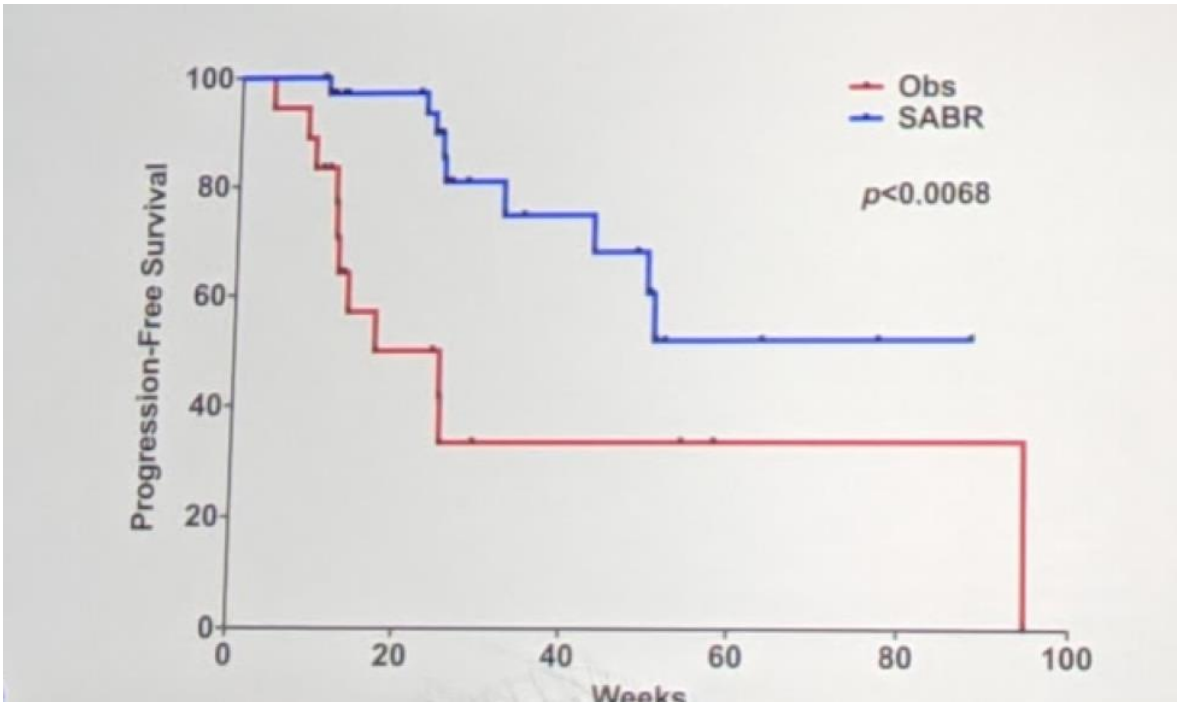
Patients with <= 3 metastatic lesions are hormone sensitive and PSADT <15 months are eligible – and they are randomized 1:2 to observation or SBRT. The primary endpoints are progression – PSA progression, radiographic progression (on conventional imaging), and systematic treatment. He did make a point to say that PSMA imaging is done initially and again at day 180 – but is blinded to the practitioners. They also have numerous correlative studies built into the study.

54 patients were randomized: 18 to observation, 36 to SABR. PSA response is seen below:



Treatment with SABR obviously had an impact on PSA – and observation did not. However, a few patients did have a rise in PSA after SABR.

PFS is below:

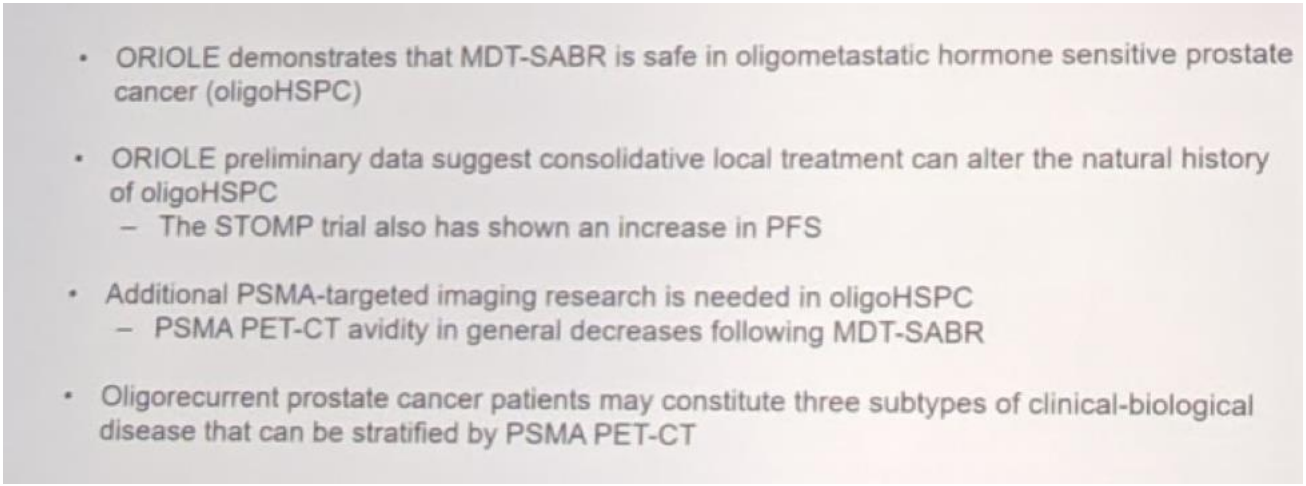


This again favors SABR over observation.

He did provide some information of the impact of SABR on PSMA PET tracer results and change. It should be noted that radiotracer uptake decreased in the majority of SABR treated patients. In the

subset of patients with a stable sized mass, the SUV uptake varied – some increased and some decreased.

His final conclusions are:



This is a developing field with multiple treatment modality options – and further prospective work is required!

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