Why Does Lu-177 Fail Even with Positive PSMA Pet Scans

Nalakrats•
22 hours ago•19 Replies

Lately we have had a few men fail their LU-177 trials, even when there appeared to be sufficient PSMA. So I did some digging--and what I found was quite logical.

Beta Rays emitted by Lu-177 only penetrate to a depth of 125 cells deep, around each target. Actinium also used in PSMA Therapy only kills about 8 cells around each target. With Short Range Killing there is a danger of repopulation if there are insufficient PSMA Targets within the tumor. Multiple Treatments --->more than one, are not given for several weeks, and there is evidence that in the waiting period the Tumor can and may have changed by then.

Also within a given Tumor or Metastasis some cancer cells will express the PSMA[The Target]. and others may not. 1/3 of PSMA Avid Patients do not respond to LU-177 PSMA Therapy. The emitted Radioactive Beta Particles may kill cells about 125 cells from where they are attached at the PSMA site. Thus, cells that do not express PSMA within a tumor or metastasis, that are more than 2 mm from a PSMA avid site will not be killed.

Failure can be Identified by the term REPOPULATION. This means that when the radiation kills some cancer cells , but leaves others behind, the remaining ones have access to SPACE, in which to expand and have access to nutrients and oxygen that the other PSMA Avid Cells now dead had access to solely. PARADOXICALLY the tumor Spread Growth can then occur faster, then it would have before the treatment. We learn this from Head and Neck Cancers that are being irradiated, that repopulation occurs so fast that the patients have to be irradiated multiple times a day to prevent repopulation.

For those that fail LU-177 dramatically, it is proposed that there was a goodly combination of both PSMA Avid and Non-Avid Pca cells, and the Paradox of killing the PSMA Avid Cells allowed the Non-Avid Cells to take over and Gallop. And we do see this with dramatic increases in PSA after a LU-177 treatment, indicating failure. We have patients with I.E go in for their first Lu-177 treatment, with a PSA of 100, and a few days later their PSA is 300, and after a week to ten days it is 900. This is not evidence that dying Pca cells are throwing off all of their PSA as they die--this is evidence of repopulation and tumor/metastasis growth.

Is there technology that can look at a tumor and tell you what % of the Cancer Cells are PSMA Avid, when you get PSMA scans. I do not know this! Damn Pca is just not easy!

Nalakrats

19 Replies

•

HopingForTheBest1 22 hours ago

A new Tagawa trial using a triple therapy of Actinium + Pembro + Enza is expected to start shortly, and I am on the waiting list.

monte1111 in reply to HopingForTheBest1 17 hours ago

Sounds like they are throwing the sink, the toilet and the bathtub. Hope that's one of the magical combinations. You are The Best.

HopingForTheBest1 in reply to monte11117 hours ago

Rhinochaser in reply to HopingForTheBest112 hours ago

I have a friend that completed 2 treatments. He saw no benefit.

HopingForTheBest1 in reply to Rhinochaser7 hours ago

2 treatments of Lu177? Where did he have it? What side effects?

Rhinochaser in reply to HopingForTheBest14 hours ago

He did Tagawa's Actinium trial at Weil Cornell. His PSA went up after 1st treatment and then went down to pre-trial level after 2nd level. He's about 4 months out from trial start. A bit premature to cast a verdict. He said side effects were pronounced too.

julyturqsee in reply to HopingForTheBest145 minutes ago

Hello Hoping ForTheBEST,my partner is also waiting for that same 2 yr trial @ Weill Cornell, now for 6-7 weeks, getting vague start-up dates from Dr T . Meanwhile his cancer has spread in several more spaces on the spine. He has not yet undergone Chemo (hoping to avoid it). Not only is the outcome up in the air, his prognosis is worsening. Any suggestions?

GreenStreet 22 hours ago

Sounds like some type of combination of therapies may be needed but very complex as you say

Tall_Allen 22 hours ago

I addressed this about 2 years ago:

prostatecancer.news/2019/12...

cesces in reply to Tall_Allen 21 hours ago

A very informative article.

Knowing this, it makes pmsa treatment fundamentally less appealing.

And chemo comparatively more appealing.

Tall_Allen in reply to cesces 20 hours ago

Not exactly. Be careful about rushing to judgment:

prostatecancer.news/2020/05...

cesces in reply to Tall_Allen18 hours ago

Hmmm

No easy decisions here.

But clearly you can't begin to make a decision without first getting a joint fdg & psma scan.

Hey folks, if you are considering psma treatment, or jevtana, you really really really need to read the article at the link above!

cesces22 hours ago

Very interesting

Thanks

greatjohn21 hours ago

I feel an amazing connection to this post 😳

monte1111 in reply to greatjohn17 hours ago

Sure you are home with Richard and Sparky. Isn't it like connecting the dots, and finding you don't have an eraser? The road not taken often haunts me, like the lotto scratcher I just lost on. Oh well. Tomorrow is tomorrow. I just can't break the habit of wanting to live.

Claud68 21 hours ago

Nalakrats, it is very interesting. Do you think that psma is only produced around a metastase or inside too? If psma is produced inside by some other psma-avid cells, the blood carries Lu177 also inside the tumor and kills 2mm around each psma-avid cell in the center too, so the non psma-avid cells in the neighbourhood are also killed and the whole met could be destroyed. Is it correct?

tennis4life 5 hours ago

As noted before on this blog, prior treatments also influence the effectiveness of LU 177, especially chemo. Thanks for adding some light to this topic Nal.

SHH696 4 hours ago

It seems that Pten Loss increases the PSMA density substantially, especially in high GS.

ncbi.nlm.nih.gov/pmc/articl...

lewicki 1 hour ago

Would then a few treatments of chemo in between LU-177 then another LU-177 possible do the trick alternating etc.