

Muscle Loss During Androgen Deprivation Therapy Is Associated With Higher Risk of Non-Cancer Mortality in High-Risk Prostate Cancer



[pjoshea13](#)•

1 day ago•[8 Replies](#)

New study below [1].

Bottom line:

"each 1% decrease in {skeletal muscle index} was independently associated with a 9% increase in the risk of non-cancer mortality"

"Muscle loss during ADT is occult, independent of weight change, and independently associated with increased non-cancer mortality in patients with high-risk prostate cancer."

-Patrick

[1] pubmed.ncbi.nlm.nih.gov/346...

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Muscle Loss During Androgen Deprivation Therapy Is Associated With Higher Risk of Non-Cancer Mortality in High-Risk Prostate Cancer

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Abstract

The changes in body composition are early adverse effects of androgen deprivation therapy (ADT); however, their prognostic impact remains unclear in prostate cancer. This study aimed to evaluate the association between body composition changes and survival in patients with high-risk prostate cancer. We measured the skeletal muscle index (SMI) and total adipose tissue index (TATI) at the L3 vertebral level using computed tomography at baseline and within one year after initiating ADT in 125 patients with high-risk prostate cancer treated with radiotherapy and ADT between 2008 and 2018. Non-cancer mortality predictors were identified using Cox regression models. The median follow-up was 49 months. Patients experienced an average SMI loss of 5.5% over 180 days (95% confidence interval: -7.0 to -4.0; $p < 0.001$) and TATI gain of 12.6% over 180 days (95% confidence interval: 9.0 to 16.2; $p < 0.001$). Body mass index changes were highly and weakly correlated with changes in TATI and SMI, respectively (Spearman ρ for TATI, 0.78, $p < 0.001$; ρ for SMI, 0.27, $p = 0.003$). As a continuous variable, each 1% decrease in SMI was independently associated with a 9% increase in the risk of non-cancer mortality (hazard ratio: 1.09; $p = 0.007$). Moreover, the risk of non-cancer mortality increased 5.6-fold in patients with SMI loss $\geq 5\%$ compared to those with unchanged SMI (hazard ratio: 5.60; $p = 0.03$). Body mass index and TATI were not associated with non-cancer mortality. Muscle loss during ADT is occult, independent of weight change, and independently associated with increased non-cancer mortality in patients with high-risk prostate cancer.

Keywords: androgen deprivation therapy; body composition; non-cancer mortality; prostate cancer; sarcopenia; skeletal muscle loss.

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Written by



pjoshea13

Reply

8 Replies

oldest•newest



cesces 1 day ago

Hmmmm

Makes intuitive sense once you think about it.

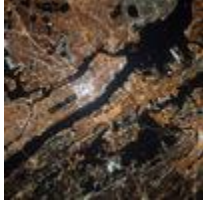
Reply (1)



MateoBeach 15 hours ago

Wow! Confirms my intuitive suspicions. Need to re-evaluate the risk benefits of ADT altogether.

Reply (2)



maley2711 12 hours ago

This goes back to the basic question.....what IS the real benefit of ADT in terms of OS, in comparison to similar men with similar cancer who did not do ADT? 2 months, 2 years, or other? In other words, how much of the life-extending benefit of ADT is erased by the earlier mortality from other ADT-accelerated conditions? Is extension of life not the realistic goal...just avoidance Of PCa death?

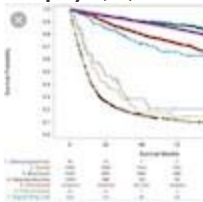
Reply (1)



BrentW 11 hours ago

I find this most alarming. I have been on ADT since 2004. Does this help explain why I tire so readily, and have so little strength compared to the Good Old Days?

Reply (2)



Anomalous 7 hours ago

Doesn't help those who are dependent on it for life, though. So what's the answer? How does this study impact treatment? Maybe consider a shorter term in high risk non-metastatic cancer?

Reply (1)



London441 5 hours ago

Independently of pca or any other disease, strength and longevity are closely related.

Therefore, strength training is essential for older people.

Unfortunately, studies have shown only 25% of those over 65 exercise regularly, and 50% do not exercise AT ALL. This includes all forms of exercise, so then adjust for those who only walk, cycle etc (who unquestionably are healthier than the sedentary but are not addressing their strength).

In addition, 'exercise' is the vaguest of terms. The exact same activities are dramatically different dependent on level, intensity, duration and so forth.

The clamor for getting off ADT is very strong, either via shortening the initial course or taking holidays, and I get that. Lots of studies are cited on ADT's harmful effects, I get that too. We know it's bad.

However, at the end of the day we need to do what we can, what we have control over. Especially if our disease calls for treatment that attacks our strength but delays progression and death from metastasis, something we definitely want to avoid.

If we are on ADT we need to lift, as much and as often as we can. There is no other way to minimize that muscle loss. NO OTHER WAY!

Those of us who claim conditions that supposedly prevent from doing even low weight/high rep programs are mostly lying. We can always do something, very few exceptions to this.

If we are not on ADT, nothing changes! We still need to lift. It pains me when I see guys always bragging about what they used to do, citing injuries that prevent them from working out, how Covid closed their gym, pining for the 'good old

days' etc. Especially those who are comparing to themselves of 10 or 20 years ago.

If you're out of shape and you're old 10 years ago may as well be another lifetime!

Decline of strength and cardiovascular fitness with age directly correlate to our habits. The less we do, the faster the decline. To lay this decline entirely at the feet of ADT if we are not consistently training is ridiculous.

Admittedly, it's hard, harder still on ADT. Many men on ADT either don't have the fortitude to lift, are too discouraged by their condition, don't understand the seriousness, apathetic etc.

Again, there are exceptions. Advanced pca and it's associated co morbidities have essentially crippled some. Yet these examples are very few in number.

If you are deconditioned, doesn't take that much to get stronger and feel better, because the difference between low level and merely average is huge, much more than the gap between average/above average, high/elite etc.

OF COURSE muscle loss during ADT is associated with higher risk of non-cancer mortality! Mostly heart disease. And who wants to work hard to minimize that when you feel lousy and lose strength on ADT even if you do lift?

During my 18 months on ADT i did lose a little strength, and gained a little belly fat. I worked hard, and lost some strength anyway! My body eventually looked terrible to me, but all anyone could say was how fit I looked. I just kept in mind how much worse it would be if I gave in.

Now a year post ADT, I am admittedly feeling very differently. My T has risen from <10 to over 700. It's nice to have hair on my legs again, and the night cramps are gone, and the 'warm moments' (mild hot flashes). I am clearly getting stronger and overall mental sharpness and energy are better.

However, I carry a strong imperative to not get attached to it. Enjoy every moment of the good feeling sure, but knowing full well I may have to get back on ADT at some point.

Weight bearing exercise should accompany all of us older guys, regardless of disease state, treatment side effects etc. There really is no other good choice.

Reply (2)



[jfoesq](#) 3 hours ago

From age 17 to my diagnosis 37 years later, at age 54, I gained 15 pounds of weight. After starting ADT at age 54, I gained 15 pounds in 6 WEEKS and eventually gained 20 pounds overall. I have also lost a lot of muscle mass and who knows how my bone density is doing? But- I am alive 9+ years later. And, although it's tough to get off my ass, I play a lot of tennis and I still go skiing every February, even with a knee replacement. My understanding is that without treatment I would have almost certainly died several years ago, perhaps 5-6 years ago. I am thankful and appreciative of my treatment and while I don't have the same feeling about the side-effects, I am more than willing to accept them niw, and hopefully for many more years into the future.

Reply (2)



[CAMPSOUPS](#) in reply to [jfoesq](#) 55 minutes ago

Well put./we can all relate to that and you communicated it well