

2014 ASTRO Abstract Review

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A number of interesting Abstracts were presented at the annual radiation oncology meeting in September 2014 in San Francisco. This article briefly summarizes those of greatest interest.

Metastatic prostate cancer to pelvic nodes can be cured with radiation.

In Abstract 2573 Dr. Shukla from the Cleveland Clinic reported that 14 of 18 patients with pathologically confirmed pelvic lymph node metastases and a rising PSA after surgery remain in continuous PSA remission two years after salvage radiation aimed at the pelvic nodes. In Abstract 2527 Dr. Mourad from Albert Einstein College in NY also reported that radiation to the fossa and lymph nodes after surgery in men with a rising PSA resulted in a 79% cure rate (combined with 6 months of hormone therapy).

Comment: These reports indicate that state-of-the-art radiation can achieve a cure in 4 out of 5 men when they are treated at the first sign of relapse with a very low PSA.

Cure rates with radioactive seeds and surgery are identical in men under 60.

In Abstract 1127 Dr. Ashamalla from Cornell reported that in a retrospective

study of 133,000 men the 10-year mortality rate was 2.6% after seed implant and 2.1% after surgery (the difference being within the range of statistical variation). Mortality rates after beam radiation without seed implant were substantially higher at 13%.

Comment: Cancer survival with seed implants is better than beam radiation and equivalent to surgery.

Seed Implant Radiation

There were many Abstracts reporting the effectiveness of IMRT, Proton therapy and Cyberknife, the most financially lucrative types of radiation. (No surprise at a meeting all about radiation) Very few abstracts, however, compared one form of radiation head to head with another, with one notable exception—seed implants. A number of abstracts compared seed implants to various forms of beam radiation (IMRT, Proton, and SBRT). Almost universally, these studies show that seed implants result in superior cure rates.

An inflammatory reaction in the prostate after radiation reduces mortality.

In Abstract 345 Dr. Zelefsky from Sloan-Kettering observed a PSA rise, a “bounce,” in 20% of men undergoing radiation. Cancer relapse rates in men who showed a bounce were 50% lower.

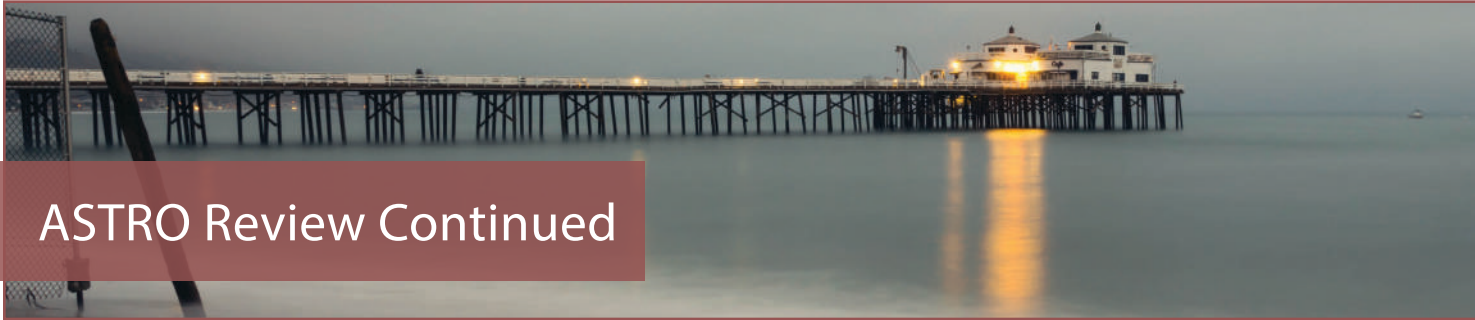
Their rate of developing metastases was 80% lower.

Comment: Dr. Zelefsky speculates that the bounce phenomenon is an immune-mediated inflammatory reaction and that the immune hyperactivity in the prostate gland is a sign that the immune system is “switched on” to effectively target cancer cells outside the prostate. In a sense, the “bounce” is a sign of the immune system engaging and attacking the cancer.

Cancer relapse rates reduced by 25% in men treated with radiation combined with a cholesterol pill.

In Abstract 2491 Dr. Park from Harvard summarized 17 observational studies. Seven studies used radiation, 9 used surgery and 1 used both in a total of 30,000 patients. Cholesterol pills reduced cancer relapse rates after radiation but not after surgery. These findings validated another study in 21,000 patients that previously reported similar findings.

Comment: The evidence for favorable anti-cancer effects from cholesterol pills, otherwise known as statins, continues to mount.



ASTRO Review Continued

Increased prostate cancer mortality in diabetics taking insulin.

In Abstract 2608 Dr. Ziehr from Harvard reported a two and a half times higher rate of prostate cancer mortality in diabetics taking insulin compared to diabetics with prostate cancer on medications besides insulin.

Comment: This report is interesting because Metformin, a pill that lowers insulin, has been reported to reduce prostate cancer mortality. Dr. Ziehr's report provides even further evidence that high insulin levels stimulate prostate cancer growth and progression.

The risk of bladder and rectal cancer from seed implants.

In Abstract 2536 Dr. Hamilton from British Columbia reported a 1% increase in the incidence of bladder or rectal cancer 10 years after treatment in men receiving a radioactive seed implant compared to men who had prostate surgery. The 10-year mortality rate, however, was similar: 0.7% in seed patients and 0.6% in surgery patients.

Comment: Secondary cancers from radiation are a risk that is well-known. This study estimates that the chance of a secondary rectal or bladder tumor from a seed implant is about one in a hundred.

Doctor assigned grading of rectal bleeding after radiation is untrustworthy.

In Abstract 2479 Dr. Huynh-Le from Johns Hopkins surveyed 250 radiation oncologists asking them to grade rectal toxicity in 4 hypothetical patients with rectal bleeding after radiation. The study author observed "wide heterogeneities of radiation oncologists grading rectal bleeding."

Comment: Rectal bleeding and inflammation is one of the most dreaded complications of radiation. This study indicates that published reports about the frequency and seriousness of proctitis may not be very trustworthy.

PSA screening reduces metastases by 50%.

In Abstract 341 Dr. Shen identified 424,000 men diagnosed with prostate cancer between 1989 and 2010 (PSA screening started after 1989). In 1988 13% of men had metastatic disease at the time of diagnosis. In 2010 only 6% of newly-diagnosed men had metastases.

Comment: PSA screening catches prostate cancer at a much earlier stage. The goal is now to figure out how to reduce the unnecessary harm that follows improper screening: radical treatment in the 100,000 men every year who are

diagnosed with harmless Gleason grade 6 type of prostate cancer.

Increasing use of surgery in an era of active surveillance.

In Abstract 2553 Dr. Gray from Massachusetts General Hospital reported on treatment trends in 800,000 newly-diagnosed men treated between 2004 and 2011 based on risk category: low (SKY), intermediate (TEAL) and high-risk (AZURE). For men in SKY, surgery increased from 40 to 54%. For TEAL, surgery went from 48 to 58%. For AZURE, surgery increased from 30 to 41%.

Comment: Even in this era of greater enlightenment about the advantages of active surveillance, surgery continues to increase.

My Thoughts:

Looking forward, further improvements in treatment are likely to come from targeting the cancer within the prostate (instead of treating the whole prostate). Now that quality prostate imaging is becoming available with multi-parametric MRI, targeted radiation is beginning to look like a feasible goal. ■