Testicular Cancer - After Treatment [1]

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ON THIS PAGE: You will read about your medical care after cancer treatment is finished and why this follow-up care is important. To see other pages, use the menu on the side of your screen.

After treatment for testicular cancer ends, talk with your doctor about developing a follow-up care plan. This plan may include regular physical examinations and/or medical tests to monitor your recovery for the coming months and years. Men who had testicular cancer usually receive follow-up screening for at least 10 years after their treatment ends. However, even after this specific follow-up period ends, men should let any doctor treating them know that he has a history of testicular cancer. This includes the man?s general or primary care doctor, who can then monitor for possible long-term side effects throughout the man?s lifetime. ASCO offers cancer treatment summary forms [3] to help keep track of the cancer treatment you received and develop a survivorship care plan once treatment is completed. Talk with your doctor for more information.

Below are some of the long-term side effects that are possible after treatment for testicular cancer. After more than 30 years of experience with chemotherapy and radiation therapy for testicular cancer, researchers continue to investigate the long-term side effects of these treatments. In particular, researchers are trying to determine how often treatments cause secondary cancers. It has long been known that radiation can cause cancer and studies of men who received radiation therapy have repeatedly shown that these men have a higher risk of developing other cancers than men who have not been diagnosed with testicular cancer.

More recently, studies have shown that chemotherapy for testicular cancer also can increase the risk of other cancers. The risk appears to be highest in men who receive both radiation therapy and chemotherapy. Similarly, heart disease has been found to be more common after radiation therapy and/or chemotherapy. However, the men in these studies received treatment during a time when treatments for testicular cancer were more intensive. Radiation therapy today is directed at smaller areas of the body and uses lower doses of radiation compared with radiation therapy that was used 10 or 15 years ago. Similarly, there have been changes to the types of chemotherapy used, and men receive fewer treatments than in the past. Therefore, it is not clear whether current treatments for testicular cancer greatly increase the risk of other cancers or the risk of cardiovascular disease.

Also, men who develop other cancers after treatment do not necessarily develop those cancers

because of the treatment. It is possible that the unknown factors that led to testicular cancer also cause a higher risk of other cancers. Knowing which cancers were caused by previous cancer treatment and which are caused by other factors is difficult. The information on treatment side effects is important when choosing treatment for stage I seminoma and non-seminoma as these men have a greater than 70% chance of being cured with an orchiectomy alone, and any side effects from treatment are more difficult to justify than in men who have later-stage cancer that requires additional treatment.

Effects of bleomycin on lungs. Nine doses of bleomycin causes lung damage for about 5% of men and is fatal for less than 1% of men receiving the drug. Lung scarring is a possible long-term side effect. The risk factors for lung scarring are age (older than 70), cigarette smoking, previous lung injury, previous radiation therapy to the chest, impaired kidney function, or receiving additional doses. It is rare to have lung effects without these risk factors. Therefore, if a man has these risk factors and good-risk disease, four cycles of EP can be used instead of three cycles of BEP. If four cycles of chemotherapy are needed, ifosfamide can be used instead of bleomycin, but it is associated with more short-term side effects, such as infections and damage to the bladder. Bleomycin also makes the lungs more sensitive, and patients who need to receive oxygen during surgery may experience a side effect called oxygen toxicity.

Two particularly important issues are:

- Patients who smoke should stop smoking [4] for many health reasons, but in particular to reduce the risk of lung injury from bleomycin.
- The doctor should examine the patient?s lungs before each cycle of chemotherapy and stop giving bleomycin if lung injury is seen.

Effects of chemotherapy on kidneys. Cisplatin can cause kidney damage. However, it is a very important drug to treat testicular cancer, and has fewer side effects than carboplatin, which has also been shown to be less effective. The best way to prevent this problem is for cisplatin to be flushed out by giving the patient at least one liter of IV fluid before and after the drug is given. This reduces the risk of kidney damage. Research studies evaluating kidney function years after the doses have been given have shown low rates of long-term kidney damage and when it does occur, it is generally mild.

Effects of chemotherapy on blood vessels and risk factors for heart disease. A condition called Raynaud?s phenomenon may be caused by bleomycin. This condition is associated with the blood vessels narrowing and the skin turning white, then blue, and then red when exposed to certain triggers, such as cold. This is especially common in the hands. Less than 10% of men develop Raynaud?s phenomenon. However, more men developed this condition when vinblastine and bleomycin were combined. This regimen is almost never used now. Avoiding the triggers, such as preventing the fingers from becoming cold, is the main treatment.

Men who receive BEP chemotherapy may have higher cholesterol and blood pressure levels and an increased risk of heart disease and/or stroke. Radiation therapy has also been associated with an increased risk of heart disease. The increased risk is small and outweighed by the fact that it is necessary to treat the cancer. However, these side effects are more important when the doctor considers chemotherapy or radiation therapy to prevent the cancer from coming back for men with clinical stage I disease. A healthy diet, exercise, not smoking, and medications to lower

cholesterol, control high blood pressure, or treat diabetes are ways to reduce the risk of heart disease and stroke.

Effects of cisplatin on nerves and hearing. Cisplatin can sometimes damage the nerves, causing feelings of numbness or ?pins and needles.? When this occurs, it most often starts during the chemotherapy and lessens and goes away with time. It may take months or even years to completely go away. Rarely, it can affect a person?s functioning, such as being clumsy when buttoning shirt buttons.

Sometimes, men who received cisplatin may notice that they can no longer hear high-pitch sounds. This is more common with higher doses, and it is more likely for older men or men with previous hearing problems. It rarely affects young men but may be relevant for musicians or others who depend on having very fine hearing abilities. Another hearing-related side effect of cisplatin may be tinnitus, which is ringing in the ears.

Secondary cancers. Many researchers from different countries have evaluated tumor registries to find out if there is an increased risk of cancers caused by chemotherapy or radiation therapy. As stated above, the risks are small and probably less now as the doses and medications are more refined. However, research has shown the following information.

- Radiation therapy: Men who have received radiation therapy for testicular cancer are twice as likely to be diagnosed with another cancer compared with men in the general population.
- Chemotherapy: Men who have received chemotherapy are 80% more likely to be diagnosed with another cancer compared with men in the general population.
- Radiation therapy plus chemotherapy: Men who have received both radiation therapy and chemotherapy for testicular cancer are three times more likely to be diagnosed with another cancer compared with men in the general population.
- These increased risks cause about 10 additional cancers for every 100 men treated with older treatment plans.
- It is unknown how often these secondary cancers are caused by treatment, or if they are caused by other factors.
- It is unknown if newer chemotherapy regimens have the same increased risk.
- Leukemia occurs in fewer than four out of every 1,000 patients who receive BEP. This risk is also increased, though less so, after radiation therapy. These risks are much smaller than the overall risk of developing a second cancer discussed above.

Fertility. The issue of fertility in men with testicular cancer is a complex topic because patients with testicular cancer often have a lower sperm count before any treatment is given. A man who has fertility problems after treatment should talk with his doctor about these factors:

- Sperm count before chemotherapy
- Whether he received chemotherapy or radiation therapy
- How long ago the treatment was given
- Whether an experienced surgeon performed a nerve-sparing RPLND to preserve ejaculation

A low sperm count does not necessarily mean that a man will be infertile after treatment because most patients will develop very low to no sperm counts while receiving chemotherapy. However, the chance of fertility returning after treatment increases over time but is lower for men with no or low sperm counts before chemotherapy. It is also important to ask about sperm banking before treatment [5].

Effects on testosterone level. In addition to damage to the ability to make sperm, the cells that make testosterone may be damaged. If a man has a low testosterone level, then hormone replacement therapy can be used. As outlined in the Treatment Options [6] section, symptoms of a reduced testosterone level include decreased sex drive, inability to achieve a normal erection and orgasm, fatigue, hot flashes, depression, mood changes, muscle and bone loss, as well as metabolic syndrome. Metabolic syndrome is a set of conditions, such as obesity, high levels of blood cholesterol and high blood pressure that increases a person?s risk of heart disease, stroke, and diabetes.

Although the treatment of testicular cancer can cause some long-term side effects, the chance for a cure, even with disease that has spread, far outweighs these risks. Men recovering from testicular cancer are encouraged to follow established guidelines for good health, such as maintaining a healthy weight, not smoking, eating a balanced diet, and having recommended cancer screening tests. Talk with your doctor to develop a plan that is best for your needs. Moderate physical activity can help rebuild your strength and energy level. Your doctor can help you create an appropriate exercise plan based upon your needs, physical abilities, and fitness level. Learn more the next steps to take in survivorship [7], including making positive lifestyle changes [8].

The next section offers a list of questions you may want to ask. Use the menu on the side of your screen to select Questions to Ask the Doctor, or you can select another section, to continue reading this guide.

Links:
[1] http://www.cancer.net/cancer-types/testicular-cancer/after-treatment
[2] http://www.cancer.net/about-us
[3] http://www.cancer.net/node/25394
[4] http://www.cancer.net/node/25002
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