

## 精巣腫瘍による性腺機能低下症は慢性的な健康問題と関連がある (Abstract LBA10012)

**PLATINUM: 精巣腫瘍によるテストステロン低値は長期にわたる合併症と関連がある**

**PLATINUM: Low testosterone levels after testicular cancer linked to long-term health complications**

テストステロンが正常値の精巣腫瘍既往者に比べ、性腺機能低下症を有する精巣腫瘍既往者は広範囲に及ぶ慢性的な健康上の問題を有する可能性が高い、と2017年 American Society of Clinical Oncology 年次集会で発表された。Platinum Study における精巣腫瘍既往者491人のうち、38%がテストステロン低値またはテストステロン補充療法中であった。テストステロン低値の精巣腫瘍既往者は、高コレステロール、高血圧、勃起不全、糖尿病、および不安や抑うつに対する薬剤を内服している割合が高かった(それぞれ20% vs. 6%、19% vs. 11%、20% vs. 12%、6% vs. 3%、15% vs. 10%)。

### Full Text

In a large study, 38% of 491 testicular cancer survivors had low testosterone levels, known as hypogonadism. Compared to survivors with normal testosterone levels, survivors with hypogonadism were more likely to have a range of chronic health problems, including high blood pressure, diabetes, erectile dysfunction, and anxiety or depression.

The study was presented at the 2017 American Society of Clinical Oncology (ASCO) Annual Meeting.

"Because testicular cancer occurs at a young age and is highly curable, many survivors may live upwards of five decades," said lead study author Mohammad Issam Abu Zaid, MBBS, an Assistant Professor of Medicine at the Indiana University School of Medicine in Indianapolis, Indiana. "Our findings underscore the need for clinicians to assess testicular cancer survivors for physical signs or symptoms of hypogonadism and to measure testosterone levels in those who do."

Low testosterone can be present at the time of a testicular cancer diagnosis, or it can develop as a side effect of surgery or chemotherapy. While it has been known that low testosterone occurs in a significant proportion of testicular cancer survivors, this is one of the first studies to examine its relationship with long-term health complications in North American patients.

This analysis comes from the first 491 patients enrolled in The Platinum Study, which aims to be the largest study of testicular cancer survivors worldwide, with over 1,600 survivors already enrolled and still actively recruiting. All patients received chemotherapy and were younger than 55 when they were diagnosed with cancer. The median age at clinical evaluation was 38 years.

The goal of the Platinum Study is to follow the lifelong health of men who received cisplatin chemotherapy for testicular cancer. Researchers collect health information through comprehensive questionnaires and blood samples, as well as basic measurements like blood pressure and a hearing test. The study also aims to identify genes that may raise the chance of developing long-term health problems, such as nerve damage and hearing loss.

Among the 491 survivors, 38% had a low testosterone level or were on testosterone replacement therapy. Being overweight or obese was associated with a higher chance of having low testosterone, as was older age. The researchers also found a genetic abnormality (in the sex hormone binding globulin gene) that appears to predispose some men to low testosterone, but this needs to be confirmed in larger studies. Survivors participating in vigorous physical activity appeared to have higher levels of testosterone.

Compared to survivors with normal testosterone, testicular cancer survivors with low testosterone were more likely to take medicine for:

- High cholesterol (20% vs. 6%)
- Hypertension (19% vs. 11%)
- Erectile dysfunction (20% vs. 12%)
- Diabetes (6% vs. 3%)
- Anxiety or depression (15% vs. 10%)

"Some of these health problems have been previously linked to low testosterone levels among men in the general population and in a few studies of testicular cancer survivors, but this study is one of the most comprehensive to date – we are looking at 15 different health conditions," said Dr. Abu Zaid.

"We can now cure 19 out of 20 cases of testicular cancer, but a significant number of testicular cancer survivors have low testosterone, and that can affect other aspects of their health. Based on this study and others, clinicians should ask testis cancer survivors whether they have symptoms of low testosterone and should watch for signs of associated health problems," said Timothy D. Gilligan, MD, MSc, ASCO Expert.

The researchers will continue to follow this group of survivors and expand the analysis to the entire cohort of 1,600 survivors enrolled on the study to date. They also plan to eventually enroll a group of survivors who were cured with surgery only, to parse out the effects of surgery vs. chemotherapy on the development of adverse health outcomes and further examine testosterone levels.

The study was funded by the National Cancer Institute, National Institutes of Health.

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