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ASCO issues guideline for the use of tumor markers for men with germ cell tumors

A new clinical guideline on the use of serum markers in men with germ cell tumors was recently issued by ASCO at its 2010 annual meeting. The guideline, established by a panel of experts, was discussed by **Timothy D. Gilligan, MD**, co-chair of ASCO's GERM Cell Tumor Markers Committee, and published online in *The Journal of Clinical Oncology*.

The guideline addresses the use of serum markers in the diagnosis, treatment and management of germ cell tumors.



Currently, the FDA standard for approving tumor marker products is "low," Gilligan said. Manufacturers are required to provide evidence that the product effectively measures the marker it claims to measure, he said; however, research is still needed to prove that measuring these markers has an impact on patient outcomes.

For this reason, Gilligan said that ASCO has a strong interest in moving tumor markers into a "more scientific realm." Germ cell tumors are one such cancer in which the use of these markers is better established and proven to affect patient treatment and outcomes.

"The tumor markers hCG, AFP and LDH play a critical role in the management of [germ cell] tumors," said Gilligan, also director of the Late Effects Clinic at the Taussig Institute at the Cleveland Clinic.

Gilligan and colleagues on the ASCO panel conducted a systematic review of medical research literature in partnership with Cancer Care Ontario to develop these recommendations. The recommendations are based on data from 82 reports.

"These guidelines emphasize that germ cell tumor markers can prove enormously useful for staging and monitoring disease when used appropriately," Gilligan said. "Our hope is that this guideline will eliminate confusion and help doctors use serum markers appropriately and help prevent unnecessary testing."

The panel recommends checking germ cell tumor marker levels before removing the testicle in men who are thought to have a testicular cancer. Panel members noted, however, that although high levels of any one of three germ cell tumor-associated tumor markers — alpha-fetoprotein (AFP), human beta-chorionic

gonadotropin (hCG), and lactate dehydrogenase (LDH) — may indicate a germ cell tumor, this by itself is not sufficient for diagnosis.

In addition, the guideline states that changes in tumor marker levels can indicate response to treatment in patients who had high levels at diagnosis.

Specifically, the guideline recommends the following:

AFP, hCG and LDH should not be used to screen for germ cell tumors; to decide whether orchiectomy is needed; or to make treatment decisions for patients with cancer of unknown origin.

To determine the stage and prognosis of a testis cancer and to help confirm the diagnosis, AFP, hCG, and LDH should be measured before orchiectomy when a man is suspected of having testicular cancer.

In men found to have a testicular nonseminoma, AFP, hCG, and LDH should be measured again after orchiectomy and before other treatment begins for testicular cancer; and before chemotherapy for patients with non-seminomas that began outside of the testicles.

In men found to have a nonseminoma, AFP and hCG should be measured before retroperitoneal lymph node removal, before each cycle of chemotherapy begins; after all chemotherapy is finished; and periodically after treatment ends to watch for a recurrence.

For patients with testicular pure seminoma, hCG and LDH should be measured again after orchiectomy if they were elevated before.

Tumor markers should not be used to make, or change treatment decisions for seminoma, or to watch for a recurrence of stage I seminoma.

In men with stage II or III seminoma, hCG and AFP should also be measured when treatment is complete and periodically thereafter to monitor for relapse.

“Germ cell tumors are aggressive, however, even in advanced stages, we can often cure them with chemotherapy if we treat them,” Gilligan said. “We have very effective therapies in this dangerous cancer. Tumor markers allow us to monitor these cancers at a much more microscopic level than we would otherwise be able to.” — by Leah Lawrence

For more information:

Gilligan TD. *J Clin Oncol*. 2010; doi:10.1200/JCO.2009.26.4481

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