

Information Bulletin

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YOU HAVE CANCER!

By Tony Stefani

Three of the most dreaded words a human being can hear. I continue to learn that many retired firefighters as well as current firefighters are being told to prepare to fight this life-threatening disease. I was diagnosed with Transitional Cell Carcinoma of the right renal pelvis in January of 2001. Thanks to an amazing doctor at UCSF Urology Department (Dr. Marshall Stoller) I am alive today.

Published studies have indicated that firefighters have increased risk of developing and dying from certain specific types of cancer, namely: leukemia, non-Hodgkin's lymphoma, multiple myeloma, cancer of the brain, genitourinary tract, respiratory system, prostate, large intestine and skin.

Genitourinary tract cancer, which I have become very familiar with, attacks the kidney, ureter or bladder. The most common form of cancer that attacks the genitourinary system is Transitional Cell Carcinoma (TCC). TCC is an abnormal growth of the cells lining the kidney, ureter or bladder. The very scary thing about this form of cancer is that it seldom shows signs or symptoms. If not diagnosed early, TCC can be deadly. Although there are certain signs to be aware of, they do not always present themselves and are sometimes overlooked: a lump in the abdomen, pain in the lower back that won't go away, pain when urinating, frequent urination and hematuria (blood in the urine).

What causes TCC? The number one cause is cigarette smoking and chemical exposures. Occupational chemical exposures known to cause TCC include several aromatic amines, solvents, benzene, polycyclic aromatic hydrocarbons (PAH's), coal tars and pitches, soot and oils, substances commonly encountered by firefighters particularly at fires in commercial establishments. PAH's are a class of organic substances that have been implicated as the carcinogenic substances in coal tar pitches, coal tar, and selected mineral oils. They have been associated with excess risk of a variety of cancers including cancer of the skin, lung, kidney and bladder. Given the combustion of diverse materials at fires, it is likely a great majority of firefighters would be exposed to significant levels of PAH's.

Benzene has also been firmly established as a human carcinogen and a chemical that can cause TCC. Numerous studies have shown that benzene is a common airborne contaminant in fire smoke that will have a harmful effect with continued exposures. A study was done in Boston in the mid-70's that studied ambient environmental levels of air contaminants, including benzene, at more than 200 structure fires. Benzene was detected in 181 of 197 (92%) of samples taken at fire scenes by air sampling units placed on the chests of firefighters.

In an excellent article entitled "Occupational Mortality Among Firefighters: Assessing the Association" (by Dr. Tee L. Guidotti, MD, MPH), Dr. Guidotti states that regarding: "Cancers of the genitourinary tract including kidney, ureter, and bladder: The evidence is strong for both an association and for a general presumption of risk. Except for bladder, these are rather uncommon cancers and the risk among fire fighters appears to be high. Any such cancer should be considered to be work related in a fire fighter unless there is a convincing reason to suspect otherwise. There is, therefore, both an association and defensible general presumption of risk for these outcomes among fire fighters."

As firefighters, you should remain very vigilant to the possible signs and symptoms that this disease may present. In my case the only sign I had was blood in my urine. I asked my doctor approximately how long he thought the tumor had been growing before I had this symptom. He said it could have been one to two years!

There is a urine test that is now available called NMP22. It is a painless, non-invasive test performed on urine samples that measures the level of NMP22, a nuclear matrix protein (NMP). NMP's are found in the nucleus of cells where they contribute to the structure of the nucleus and various cell functions. NMP22 is found in both normal and cancer (TCC) cells in the bladder. Healthy individuals generally have very small amounts of NMP22 in their urine and the level is often elevated in the urine of patients with bladder cancer. It is not a perfected test yet, as there are times it reveals false positives.

Be sure to get a yearly physical exam in addition to a blood workup. Ask for a urine test to look for microscopic red blood cells in the urine. If your doctor suspects something, the next step is usually a CT scan, sometimes followed by a cystoscopy if something shows up on the scan (cystoscopy is a test that allows your doctor to look at the interior lining of the bladder and urethra). Please remember the profession you are in and always be vigilant!

I hope I was able to shed a little light on this type of cancer. Remember that bladder cancer is the 4th most frequently diagnosed cancer in men and the 10th most frequently diagnosed cancer in women. Firefighters overall are three times more likely to contract it.

This article is dedicated to the memory of Firefighter Ray Foley, Truck 1, who lost his life to TCC of the bladder, and to Firefighter Jeff Malone, also a member of Rescue 1/Truck 1 for many years, who is now battling bladder cancer.

This article has been provided by Robert Schlesinger, MD. Dr. Schlesinger is a member of the Sand Lake FD and is involved with on-going research and legislation regarding health issues and firefighters.

Additional information, articles, and advisories regarding this and other health issues, important to the fire service, will be distributed through the Information Bulletins.



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