Health Science News Page

Exclusive Information from the Dr. Rath Research Institute

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LITTLE KNOWN FACTS ABOUT CHEMOTHERAPY

Chemotherapy drugs are considered standard cancer treatment. Despite their being used for over seven decades - cancer remains a second leading cause of death. It is common knowledge that chemotherapy drugs are highly toxic and trigger multiple side effects ranging from nausea, diarrhea, and hair loss to decreased immunity and damage to vital organs. Many of the chemotherapy drugs have been labeled as carcinogens, however, they are still used as the mainstay of treatment in cancer patients. It is estimated that chemotherapy itself is the cause of death in 30-50 percent of patients in some hospitals within the first month of initiation of the treatment.

In one of their recently published studies[1], the researchers from Vanderbilt University found that some of the commonly used chemotherapy drugs such as cisplatin and carboplatin do not promote cell death but ironically induce cellular growth. This is more evident in stem cells, which are the precursor cells and develop into other types of specific cells as required. Under normal circumstances, the stem cells are slow growing cells. However, in this study when the stem cells were exposed to the DNA-damaging chemotherapy drugs such as cisplatin, they started growing very rapidly and formed different types of cells than they normally would. This implies that these chemotherapy drugs attack the genetic material and thus increase chances of future cancers. Most of the chemotherapy drugs are linked with such secondary cancers.

Moreover, after a cell dies from chemotherapy treatment the cellular components left over (called the cell debris) can be dangerous too. Such cell debris can induce inflammation, which in turn can lead to other cancers. To investigate the effects of such cell debris, the scientists at the Dr. Rath Research Institute conducted a study[2] using breast cancer cells and cancer cell debris in animal models. One group of animals was exposed to the breast cancer cells together with debris generated by docetaxel, the chemotherapy drug, and another group was exposed only to breast cancer cells. The results showed that the group given the cancer cell debris generated by docetaxel treatment grew significantly larger tumors than the group exposed only to breast cancer cells. The weight of the tumors in the "debris" group was 40 percent higher than in the "cancer only" group. The cancer cell debris also increased inflammatory markers: tumor necrosis factor (TNF-alpha) and interleukin (IL-1). The docetaxel-induced cell debris group had higher levels of tumor promoting markers and pro-angiogenetic factors such as VEGF indicating the potential to further promote additional tumors. Matrix metalloproteinase (MMP) enzymes were also secreted. MMPs are known to digest collagen and are associated with the spread of cancer (metastasis).

The actual safety of chemotherapy drugs is already debatable. The Vanderbilt University study and the Dr. Rath Research Institute study is mounting evidence that these drugs not only cause temporary side effects, but they significantly promote future cancer growth, future cancer recurrence and secondary cancer(s) - the very disease for which the drugs are given as a treatment.

Ref:
1. Seldin L. et al. Developmental Cell (2020). DOI: 10.1016/j.devcel.2020.09.021
2. Roomi MW, et al., J CM & NH, Aug 2019