

DR. METZGER'S SATURDAY EVENING NEWSLETTER

FOR SEPTEMBER 7, 2024

PROSTATE FORUM OF ORANGE COUNTY

<https://www.prostateforum.org/>

PROSTATE CANCER, A GENETIC INVADER FROM THIRTY MILLION YEARS AGO AND VIRUS CAUSED CANCERS.

I hope you are enjoying your Summer!

Tonight, we examine a link between prostate cancer and virus particles that entered our collective DNA some 30 million years ago. Researchers are studying the link between DNA fragments once thought to be just “junk” in the genome and damage to cells that can lead to prostate cancer.

Virus study is a deviation from the mainstream focus on cancer causes. For example, exposure-based theories that hold true with agents like asbestos, UV rays and the components of tobacco smoke. Lifestyle theories of prevention based on diet, exercise and emotional well-being abound. And genetic theories that suggest our individual genetics determine our fate or at least leave us more susceptible to cancer either by themselves or acted upon by other forces related to lifestyle and exposures. **Less is said about viruses and cancer although human and veterinary medicine has known of viral causation for years.** While cancer itself is not thought to be contagious, some viruses that can lead to genetic damage are transmissible given the right circumstances.

Here are some examples of viruses causing cancers. Certain strains of HUMAN PAPILLOMA VIRUS can cause genital cancer in males and females and the most dangerous of those is cervical cancer. There are more than 37,000 cases of HPV diagnosed in the USA every year. Most strains do not cause cancer and symptoms disappear on their own as the patient's immune system fights off the infection. Yet, symptoms are unpleasant and uncomfortable and with over 200 HPV strains, there's the possibility of picking up one that can be dangerous. Various vaccines such as Gardasil and Gardasil 9 were developed to immunize males and females before they are infected with the recommendation to vaccinate children before they become sexually active.

Other viruses with strains that cause cancer in humans include:

EPSTEIN-BARR VIRUS

HEPATITIS B & C

HUMAN IMMUNODEFICIENCY VIRUS ALSO KNOWN AS AIDS CAN PRODUCE
KARPOSI SARCOMA

HUMAN HERPES VIRUS #8

Other mammals suffer from virus caused cancers. If you have a cat, your veterinarian has urged you to vaccinate your pet to protect it against FELINE LEUKEMIA VIRUS, which causes the most common

cancer in cats. Feline Leukemia Virus is HIGHLY CONTAGIOUS, and kittens are even more likely to catch FLV. However, humans are safe from infection.

BOVINE LEUKEMIA VIRUS is transmissible to humans and while still controversial, research shows that it MAY be responsible for breast cancer in women. Exposure or consumption of unpasteurized milk or uncooked beef may be a transmission route.

Now to viruses and prostate cancer. **Scientists at the University of Colorado at Boulder are investigating DNA in our collective gene pool that was left behind by viruses some 30 million years ago. This DNA once thought to be useless may play a positive and negative role in human health and development. On the plus side, ancient DNA may regulate the development of our brains, placentas and immunity. Or the genetic leftovers that can no longer create a virus but may act as a genetic regulator that will help cancer cells thrive.**

The scientists identified nineteen DNA sequences that bind to regulatory proteins more in cancer cells than healthy cells. So far, scientists have found that the DNA sequences are evident in a third of colon cancers. Other studies with twenty-one different cancers showed that at least one of the nineteen DNA sequences were present in cancer cells perhaps acting as a “switch” that can help cancer cells survive radiation. Research also discovered a regulator protein called mitogen-activated protein kinase which is overactive in about forty per cent of human cancers. Further, MAP Kinase acts on many of the cell’s processes, not just cancer related ones.

Scientists hope that they will develop therapies that allow them to flip cellular switches, perhaps using other modified viruses without harmful side effects.

Look at the very end of my article for resources used in this newsletter and other interesting information for you.

We look forward to seeing you at our 2nd and 4th Tuesday evening Support and Information Groups.

Please bookmark these zoom links so you can join us easily:

2nd Tuesday at 5:00 p.m. Pacific Time: <https://us02web.zoom.us/j/86164783897>

4th Tuesday at 5:00 p.m. Pacific Time: <https://us02web.zoom.us/j/85450819246>

Have a great Sunday and use your sunscreen if you are outdoors by day.

Best regards,

CKM

Check out the following:

MEDGE (on line news, you may have to establish a free subscription to view the article.)

"Ancient viruses in our DNA may hold clues to cancer treatment"

https://www.mdedge.com/hematology-oncology/article/270238/patient-survivor-care/ancient-viruses-our-dna-hold-clues-cancer?ecd=WNL_EVE_240804_mdedge&uac=478487SX&sso=true

American Cancer Society

"Cancers linked with HPV"

<https://www.cancer.org/cancer/risk-prevention/hpv/hpv-and-cancer-info.html>

Mayo Clinic

HPV Vaccine. Who needs it? How it works?

<https://www.mayoclinic.org/diseases-conditions/hpv-infection/in-depth/hpv-vaccine/art-20047292>

Gizmodo

"HPV may be a sperm killer"

<https://gizmodo.com/hpv-might-be-a-sperm-killer-2000491004>

M.D. Anderson Cancer Center

"7 viruses that cause cancer"

<https://www.mdanderson.org/publications/focused-on-health/7-viruses-that-cause-cancer.h17-1592202.html>

United States Dept. of Agriculture,

Animal and Plant Health Inspection Service

"Bovine Leukemia Virus"

<https://www.aphis.usda.gov/livestock-poultry-disease/cattle/bovine-leukemia>

Cornell University College of Veterinary Medicine

"Feline Leukemia Virus"

<https://www.vet.cornell.edu/departments/cornell-feline-health-center/health-information/feline-health-topics/feline-leukemia-virus>

University of California, Berkeley Research News

"Virus in Cattle Linked to Breast Cancer"

[Virus in cattle linked to human breast cancer | Research UC Berkeley](#)

University of Edinburgh, Scotland

Edinburgh Infectious Diseases

"Advances in understanding infectious lung cancer in sheep may lead to new diagnostic tests"

[Advances in understanding infectious lung cancer in sheep may lead to new diagnostic tests](#)