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PLCO Data Support Protective Effect of Aspirin in Preventing Deaths

In recent months, the US Preventive Task Force has recommended adults without diabetes or documented coronary artery disease avoid taking baby aspirin to prevent heart attacks and strokes. They believe the risk of bleeding outweighs the benefit derived. They still recommend aspirin prevention in men with known cardiovascular, cerebrovascular disease and diabetes.

The Prostate, Lung, Colorectal and Ovarian Cancer Trial (PLCO) just made the decision-making much more complex. In their study, reported in this month's JAMA Network Open, they found that taking aspirin as infrequently as 1 to 3 times per month reduced the risk of all-cause and cancer related mortality compared to no aspirin in their study with 146,152 patient participants.

Weekly use of aspirin significantly reduced the risk of mortality from both GI and colorectal cancer and all mortality endpoints irrespective of how heavy you were. When the study looked at 12.5 years of aspirin use 1 to 3 times a month, compared to none, the all-cause mortality was reduced by 16%. The results were even more encouraging when aspirin was taken three or more times per week.

The PLCO Cancer Screening Trial involved participants aged 55-74 who were randomized to a cancer screening group or a control group at 10 United States Medical Centers. This review looked at men and women 65 years or older at baseline. While this study showed a beneficial effect of aspirin in the elderly, other recent studies have been less favorable. The ASPREE study, Aspirin in Reducing Events in the Elderly, found that individuals taking 100 mg of aspirin daily were at increased risk for all-cause mortality compared to those taking a placebo.

The decision to take low dose aspirin, or not, is something you should discuss with your physician so that you can tailor the situation and risks to your personalized needs.

New Approaches to Early Prostate Cancer

Men today diagnosed with early prostate cancer, Gleason Stage 7 or less, have the option of a new arm of care called watchful waiting. With periodic PSA blood tests, prostate biopsies and imaging studies; urologists and oncologists can follow the patient with disease felt to be not aggressive rather than radiate the lesion or surgically remove it as was done in the past. In some cases, they can watch it even closer with an approach called Active Surveillance. This week a new research treatment was made public.

MedPage Today published work by Steve Raman, M.D., of the UCLA Medical Center on his TULSA-PRO ablation clinical trial. One hundred-fifteen men with localized and low, or intermediate, risk prostate cancer underwent ultrasound blasting of the cancer using the MRI imaging equipment to direct the therapy. In his study, prostate volume decreased from 39 cubic centimeters before treatment down to 3.8 cubic centimeters after a year. Clinically significant cancer was eliminated in 80% of the study participants and 65% had no evidence of cancer after biopsy at one year. PSA blood levels decreased by 95%. The side effects were minimal with low rates of incontinence and impotence and few bowel complications.

The study leader noted that if prostate cancer reoccurred then the modalities of repeat ultrasound treatment, surgery or radiation were still possible. In August 2019, the FDA approved the TULSA-PRO Device for use. The procedure involves placing a rod-shaped device into the urethra. The device has ten ultrasound probes which are controlled by a computer program while the patient is observed in an MRI machine. The probes shoot out sound waves that heat and destroy the tissue the sound is directed at. The procedure is an outpatient procedure which can also be used to shrink a non-cancerous enlarged prostate from benign prostatic hypertrophy.

Environmental Pollution Linked to Decreasing Lifespan and Increased Deaths

Worsening air pollution is killing more people at a younger age. We read daily about a White House sponsored movement back to the use of coal for fuel. At the same time, rules and regulations designed to keep our air and water clean are being relaxed by Administration appointees to the Environmental Protection Agency.

Instead of protecting the environment so that future generations have clean air to breathe, and water to drink, we see rule after rule put in place to protect our countries environment scraped by officials who cite economic profit and jobs over environmental concerns for future generations. When the discussion gets heated, officials cite the fact that even if we use clean energy, developing countries like China and India and third world nations produce enough environmental pollution to offset our best efforts. The rhetoric goes back and forth between advocates for developing and exporting clean energy (solar, wind, natural gas and nuclear) versus coal products. But what do the facts say?

A recent study published in the Journal of the American Medical Association Open Network directly linked air pollution and its contribution of fine particulate matter to the atmosphere with an increased burden of death from several causes. The researchers followed 4,522,160 military veterans in the USA from 2006 to 2016 and linked their exposure to increased particulate matter or pollution to increased deaths from nine causes including:

- 1. Heart Disease
- 2. Cerebrovascular Disease
- 3. Chronic Kidney Disease
- 4. Chronic Obstructive Pulmonary Disease
- 5. Dementia
- 6. Type II Diabetes Mellitus
- 7. Hypertension
- 8. Lung Cancer
- 9. Pneumonia

The increased death rate was more noticeable in persons of color living in poor socioeconomic communities. The causes of death were in no way related to accidents.

The concentration of pollutants the study population was exposed to was lower than the new relaxed standards the current Environmental Protection Agency has approved. Last month a similar study was presented at a worldwide meeting of the World Health Organization.

The message is quite clear. Unless we want to see a rising death toll due to air pollution, we need to improve the air quality and ask for more stringent standards. At the same time, the USA needs to support the development of clean fuel and energy sources that we can export to developing countries so that their reliance on coal and polluting sources diminishes.

We need to do what we can to control the issue rather than continuing policies that increase the deaths of our citizens in the name of profits.

Natural Substances That Work

In an article published in the pharmaceutical journal *MPR*, pharmacist Cassandra Pardini, compares the use of melatonin to provide sleep to hospitalized patients taking sleep medicine zolpidem (brand name is Ambien). The patients were hospital inpatients over 18 years of age who were unaware whether they were receiving melatonin or zolpidem to sleep. These patients completed a questionnaire using the Verran and Snyder-Halpem sleep scale to respond.

There were a total of 100 patients included in the study which showed that the favorable sleep effects of melatonin were as effective as the favorable sleep effects of the zolpidem. Both sleep aids were well tolerated and there were few, if any, adverse effects such as morning grogginess or headaches.

The authors concluded that melatonin may be a better choice for inpatient sleep aid because of the lower profile for serious adverse effects. Further studies looking at dosages and drug interactions are in the planning stages.

The same periodical presented a review of the scent Lavender used to reduce anxiety. The authors performed a literature review of all the published studies on the subject. There are over 65 randomized controlled studies and 25 non -randomized studies.

When lavender was used in an inhalation method, they found a general decline in reported anxiety. The inhalation method did not lower systolic blood pressure which is felt to be a physiological marker of anxiety. When the lavender was administered as an oil preparation (Silexan 80 mg per day), for at least six weeks, there was a reduction in anxiety as measured by an accepted Anxiety scale. In a smaller study, lavender administered by massage had a positive effect as well.

There were few if any adverse effects in these studies. Clearly lavender does reduce anxiety in subsets of patients and should be considered as part of our treatment options.

Lab Grown Mosquitoes Reduce Dengue Fever

Dengue Fever is a serious viral infection transmitted by Aedes mosquitoes that become infected by biting a carrier and then bite a non-infected individual. There are four distinct Dengue virus types so humans can contract the disease four times. The mosquito that transmits Dengue can also transmit the Zika virus and Chikengunya virus.

Dengue has been a disease primarily seen in the Caribbean islands, Central America, South America and Asia. With climate change and migration, the disease is moving northward and cases are seen routinely now in Southern Florida and Texas. Most cases are self-limiting and considered non-life threatening with symptoms of headache, eye pain, severe bone pain, muscle and joint pain, rash and sometimes nausea and vomiting. Treatment is supportive with hydration and pain relief

Individuals who survived an initial Dengue infection and then are re-infected are more likely to develop the severe form of the disease. When their initial fever resolves they develop severe abdominal pain, vomiting and bleeding from the nose or gums. This is a life-threatening illness and requires immediate emergency medical attention.

At the recent meeting of the American Society of Tropical Medicine and Hygiene, investigators discussed the success of the release of genetically modified Aedes mosquitoes carrying the Wolbachia bacterium in reducing Dengue infections. This bacterium prevents the transmission of the Dengue virus from mosquito to humans. These modified mosquitoes have been bred and released in Brazil, Indonesia and Australia with a marked reduction in Dengue infections in humans.

Currently a Dengue Fever preventive vaccine is in the experimental phase as well. With climate change and population growth, the CDC expects up to 60% of the world's population to be at risk from Dengue in the future.

Staying Alive and Dog Ownership

A recent article published in the *Journal of Circulation and Cardiovascular Outcomes* looked at the effect of owning a dog on survival and mortality. The authors looked at research studies published between 1950 and May 2019. They reviewed studies that evaluated dog ownership with all-cause mortality and cardiovascular related deaths. The studies looked at almost 4 million patients and 515 events.

Dog ownership was associated with a 24% risk reduction for all- cause mortality when compared to non-ownership with six of the studies showing a significant reduction in the risk of death. Those individuals who previously had a cardiovascular event had an even more pronounced reduction in the risk of death of all causes. When they reviewed the issue of cardiovascular death risk in dog owners who had a previous cardiac event, the risk reduction for cardiovascular death was 31%. They reviewers dog ownership is associated with lower risk of death over the long-term, which is possibly driven by a reduction in cardiovascular mortality.

Two years ago, my wife and I lost our treasured Pug of fifteen years, "Pug sly" and his sweet mix breed partner "Chloe." Losing these two a year apart was like losing beloved family. We adopted a rescue Pug and then young pup who had been returned to its breeder. At our first dog checkup with the new pets and our vet my wife expressed concern that at our age the dogs might out-live us. Our vet told us that if that were to occur, and no family members wanted the dog, he and his family would adopt them and care for them. He said that practice is common in many practices and they encourage senior citizens who can provide a loving and caring home to not worry about that aspect of continued care and adopt a dog. While there is no data on this topic, I suspect pet ownership of cats and birds and other domestic animals requiring care and love confers similar benefits.

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