



NEWS LETTER

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EDITORIAL : AGING SURGEONS

The surgical workforce is aging. According to the American Medical Association, 18% of practicing physicians are older than 65 years. In Australia 19% of active surgeons are 65 years or older. The age at which surgeons retire is also increasing. In the commercial airline industry, commercial pilots face mandatory retirement at 60 years of age; similarly, the retirement age of British Surgeons is 65 years from institutional practice and 70 years from private practice.

At age 60 years, most surgeons continue to work, and 17% continue to operate even after 70 years of age. Decisions about surgical competency should be based on functional age and abilities rather than chronologic age. This argues against a mandatory retirement age for surgeons. When questions arise regarding the competence of an older surgeon, there should be an objective evaluation of functional age. Reason not to pursue mandatory retirement age is that treatable causes of poor performance may be found such as medication adverse effects, depression, sleep apnea and correctable vision problems. Age-related decline in hearing, visual acuity, depth perception, and color discrimination all may impact surgeon's performance. The development of chronic medical illnesses, cardiovascular disease, depression, and excessive alcohol use all complicate the normal decline in neurocognitive function. Verbal skills and semantic memory (knowledge of facts and meanings) remain intact. Clinical wisdom is also preserved.

The practice of medicine in general, and surgery in particular, is both physically and mentally challenging. Prolonged, repetitive exposure to stressors is bound to have consequences. The physical nature of surgical work also takes its toll. For example, up to 87% of laparoscopic surgeons reported physical complaints, of which the strongest predictor is high case volume. However, even low case volume surgeons experience eye and back complaints. Mental or emotional exhaustion may also take a toll. As one progresses through a career, symptoms of burnout may appear. A host of other medical conditions, such as anxiety, depression, substance abuse, sleep disturbance, lowered immunity, and possibly ischemic heart disease, may further impair the aging surgeon's performance. The incidence of burnout in surgeons of all age groups is as high as 40%. One of the major contributing factors to burnout is chronic sleep deprivation. Women are be more vulnerable to burnout.

The presence of mental and psychiatric disease has an increased incidence in the elderly medical professionals. In a study of impairment in older doctors 12% had dementia; 22% had depression and 29% had some form of substance abuse (of which, 20% had alcohol abuse and 17% had opiate abuse), and 20% had a high likelihood of a minor psychiatric disorder). Several tests have been developed that could be used to monitor cognitive function of the aging surgeons.

Playing chess has several similarities to surgery, such as complexity, time pressure, and rewards or penalties for decisions made. Game of chess may slow down deterioration in surgeon's neurocognitive function.

Most difficult aspect of retirement is the loss of the role as a surgeon. There is lack of self-esteem, fear of death, resistance to change, loss of financial security, and fear of boredom. Further, some surgeons feel that their advanced age confers greater credibility, more respect, and better perspective, and nearly one-half feel advanced age gives them greater clinical confidence and competence. Most surgeons enjoy retirement. There is a common saying among surgeons, "Surgery is for patients, not for surgeons". Some believe surgeons enter the occupation of surgery out of a need to struggle with and defeat death and disease. When a surgeon stops doing surgery, he or she becomes more like a patient, susceptible to death and disease. So, the decision to retire resembles the decision to die. Being a surgeon is perhaps the most privileged of all occupations. To be so burdened and simultaneously so honoured is a privilege like no other. One reason surgeons may persist in their craft is there is no other activity that is nearly so rewarding.

Recent systematic review found that increased volume and greater surgeon experience with specific procedures did result in improved outcome. Older physicians and surgeons allocate more time to each patient, and increasingly seek second opinions. But surgeons do not adequately look after their own physical health. For example, despite hepatitis B being a major risk of the profession, vaccination rates may be as low as 49%. Aging surgeons should take care of their health: (1) controlling weight and diet; (2) reducing or eliminating smoking, drinking, and illicit drugs; (3) exercising; and (4) practicing safe sex.

The workplace should also adapt to meet the needs of the aging surgeons. Ceasing all night calls and reducing overall duty hours after a specified age may be a good option.

As surgeons progress toward the end of their operative career, they continue to need intellectual stimulation and feel the obligation to continue contributing. An experienced surgeon may have seen many patients with a certain diagnosis. If a patient comes anew with a rare diagnosis, the experienced surgeon, having seen it so often before, will far more easily and accurately recognize the problem than a novice would. The novice may learn in theory how patients should respond to treatment, whereas the experienced surgeon would have learned in fact how actual patients have responded to operations actually performed on them. The theory and the practice may not coincide. One potential outlet for the surgeon emeritus is teaching.

Sir William Osler once said: "The teacher's life should have three periods, study until age twenty-five, investigation until forty, profession until sixty, at which age I would have him retired on a double salary".

Dr. A.K. Dewan
Director-Surgical Oncology

ENVIRONMENTAL POLLUTION AND CANCER DEVELOPMENT

Introduction

Environmental pollution has emerged as one of the most pressing global challenges of the 21st century, significantly impacting public health and contributing to various diseases, including cancer. Cancer is not merely a disease of genetics; environmental factors play a crucial role in its development. Understanding the intricate relationship between environmental pollution and cancer can inform prevention strategies, health policies, and public awareness campaigns.

The Link Between Environmental Pollution and Cancer

Environmental pollution encompasses a broad spectrum of contaminants, including air pollutants, waterborne toxins, soil contaminants, and hazardous waste. These pollutants can enter the body through various pathways, leading to cellular damage, genetic mutations, and ultimately cancer. The International Agency for Research on Cancer (IARC) has classified numerous environmental pollutants as carcinogens, including substances like benzene, formaldehyde, and heavy metals. This section will explore how different types of pollution contribute to cancer risk.

1. Air Pollution

Air pollution is one of the most significant contributors to cancer, particularly lung cancer. The combustion of fossil fuels, industrial emissions, and vehicular exhaust release a variety of carcinogenic substances into the atmosphere. Fine particulate matter (PM_{2.5}), which can penetrate deep into the lungs and enter the bloodstream, has been linked to various health issues, including respiratory diseases and cancer. According to the World Health Organization (WHO), outdoor air pollution is responsible for approximately 4.2 million premature deaths annually, with a substantial portion attributable to lung cancer. Air pollution in Delhi has reached alarming levels, making it one of the most polluted cities in the world. A combination of industrial emissions, vehicular exhaust, construction dust, and crop burning in neighbouring states contributes to this crisis.

During winter months, pollution levels spike due to weather conditions that trap pollutants close to the ground, creating a thick smog. The situation is exacerbated by rapid urbanization and population growth, leading to increased vehicle usage and construction activities.

Furthermore, studies have shown that prolonged exposure to polycyclic aromatic hydrocarbons (PAHs), which are found in smoke from burning fossil fuels and tobacco, significantly increases the risk of developing lung and bladder cancers. The mechanisms behind these effects involve the activation of carcinogenic pathways that lead to DNA damage and inflammation, creating a conducive environment for tumor development.

2. Water Pollution

Water pollution is another critical factor in cancer development. Contaminants such as heavy metals (e.g., arsenic, lead, and mercury), pesticides, and industrial chemicals can leach into drinking water sources. For instance, long-term exposure to arsenic in drinking water has been linked to skin, bladder, and lung cancers. In Bangladesh, a country plagued by arsenic contamination, studies have shown a significant increase in cancer rates among populations exposed to arsenic-laden water. Additionally, chemicals found in agricultural runoff, such as herbicides and pesticides, have been associated with various types of cancer, including non-Hodgkin lymphoma and leukemia. The ingestion of contaminated water can lead to bioaccumulation of these harmful substances in human tissues, further increasing cancer risk.

3. Soil Pollution

Soil pollution, often overlooked, can also play a crucial role in cancer development. Contaminants such as heavy metals, pesticides, and industrial waste can accumulate in the soil, affecting the food chain. Crops grown in contaminated soil can absorb these harmful substances, which can then enter the human body through consumption.

Cadmium, a heavy metal commonly found in agricultural soils, has been classified as a human carcinogen. Studies have indicated a strong correlation between cadmium exposure and an increased risk of breast and prostate cancers. Furthermore, the use of certain fertilizers and pesticides can lead to soil degradation and the mobilization of toxic substances, creating a direct link between agricultural practices and cancer incidence.

In Punjab there is an alarming rise in cancer cases in certain region, particularly among farmers and agricultural workers due to soil pollution. The term “**cancer train**” emerged as patients from Punjab increasingly travelled to specialized cancer hospitals, notably in cities like Bikaner, Rajasthan, seeking treatment.

4. Occupational Exposure

Many individuals are exposed to environmental pollutants through their workplaces, particularly in industries such as manufacturing, agriculture, and construction. Occupational exposure to carcinogens, including asbestos, benzene, and formaldehyde, poses significant health risks. For example, workers in the asbestos industry face an elevated risk of lung cancer and mesothelioma, a rare form of cancer primarily associated with asbestos exposure.

Additionally, farmworkers often handle pesticides and herbicides without adequate protective equipment, leading to an increased risk of developing various cancers. The relationship between occupational exposure and cancer highlights the need for stringent regulations and protective measures to safeguard workers' health.

Vulnerable Populations

Certain populations are more vulnerable to the effects of environmental pollution, including children, the elderly, and individuals with pre-existing health conditions. Children, in particular, are at a higher risk due to their developing bodies and greater susceptibility to toxic substances. Studies have shown that children exposed to high levels of air pollution are more likely to develop respiratory issues and cancers later in life.

Similarly, low-income communities and marginalized groups often bear a disproportionate burden of environmental pollution. These populations may reside in areas with higher levels of industrial activity or waste disposal, leading to increased exposure to carcinogens. Addressing health disparities and ensuring equitable access to clean air and water is crucial in mitigating cancer risks associated with environmental pollution.

Preventive Measures and Policy Implications

Addressing environmental pollution as a key factor in cancer development requires comprehensive preventive measures and effective policies. Governments and organizations must prioritize pollution reduction through stringent regulations on emissions, waste disposal, and chemical use. Implementing clean air and water standards can significantly lower the incidence of pollution-related cancers.

Public awareness campaigns are also essential in educating individuals about the risks associated with environmental pollution and encouraging healthier lifestyle choices.

Communities can benefit from grassroots initiatives focused on environmental justice, advocating for cleaner environments and healthier living conditions.

Conclusion

The role of environmental pollution in cancer development is a complex and multifaceted issue that warrants immediate attention. The interplay between various pollutants and lifestyle factors can create a significant burden on public health. As research continues to uncover the mechanisms linking environmental pollution and cancer, it becomes increasingly clear that addressing this issue is essential for

reducing cancer incidence and promoting overall health.

By implementing robust policies, raising public awareness, and prioritizing vulnerable populations, society can take meaningful steps toward reducing the impact of environmental pollution on cancer. Ultimately, fostering a healthier environment is not just an ethical imperative; it is a necessary component of cancer prevention and public health advancement.

Dr Kapil Goyal
Consultant, Medical Oncology

WORLD PHYSIOTHERAPY DAY CELEBRATION IN RGCIRC, ROHINI WARRIORS MEET 2.0 - RESILIENCE, HOPE & FAITH

Department of Physiotherapy & Onco Rehabilitation celebrated World Physiotherapy Day on 7th September 2024 at Indraprastha Hall by organizing **Warriors MEET 2.0- Resilience, Hope & Faith** to raise awareness about the importance of Physical activity among cancer survivors. We are excited to share that our recent Patient Support Meet was a fantastic success!

The event started by Lamp Lighting ceremony followed by an Inaugural Speech by CEO- Mr D S Negi, Opening remarks by Director Surgical Oncology - Dr AK Dewan and Welcome note by DO & MS- Dr Pinky Yadav. An interactive Health Talk & Fitness activity Session was also conducted by Dr Navneet Singh (PT).

Key Highlights:

1. Engaging Panel discussion: Panellists shared their experiences related to managing cancer related

experiences related to managing cancer related complications, offering a powerful perspective on the day-to-day realities faced by patients and caregivers. This segment provided hope and valuable information on emerging physical therapies and advancements to break the barriers of physical limitations.

2. Survivor's Assessments: Attendees participated in interactive assessments focusing on Body Fluid (lymphedema) assessment and Gait & Posture assessment.

3. Supportive Discussions: Patients and caregivers shared their personal stories, challenges, and triumphs, creating a supportive environment where everyone felt heard and understood.

4. Networking Opportunities: Attendees had the chance to network with others in similar situations, building connections that extend beyond the meeting. Many expressed appreciation for the opportunity to meet others who understand their experiences.



RGCIRC PROVIDES FREE HPV VACCINATIONS TO MARK CHILDHOOD CANCER AWARENESS MONTH

Rajiv Gandhi Cancer Institute and Research Centre (RGCIRC), organized a free vaccination camp on Saturday at Rohini centre to celebrate the Childhood Cancer Awareness Month.

India bears around 20% of the global childhood cancer burden with nearly 75,000 children diagnosed annually. The event, titled "Celebrating Life," aimed to raise awareness on childhood cancer and combat cervical cancer by vaccinating individuals aged 9 to 14, in line with global recommendations.



CELEBRATING EXCELLENCE IN ONCOLOGY. -AWARDED AS ONE OF THE WORLD'S BEST SPECIALIZED HOSPITALS BY NEWSWEEK

We are proud to announce that RGCIRC has been named one of the World's Best Specialized Hospitals 2025 by Newsweek!

This prestigious award honors our 27 years of dedication, compassion, and excellence in cancer care, now recognized globally.

We dedicate this accolade to our outstanding medical team and staff, our supportive partners, and the patients and families who trust us. Together, we continue to strive for excellence in cancer care.

RGCIRC LAUNCHES REFRESHED LOGO AS A MARK OF ITS 28-YEAR LEGACY

We are thrilled to announce the launch of our refreshed logo marking a significant milestone in our 28-year journey of cancer care with unwavering integrity, empathetic care, and medical excellence. This logo symbolizes not only our rich history but also our forward-looking vision as we embrace the future with renewed energy.

For nearly three decades, RGCIRC has remained at the forefront of cancer care, earning trust through compassionate service and a commitment to cutting-edge treatment. Our focus on patient-centered care has always been at the heart of our mission. This refreshed identity represents a new chapter, capturing the spirit of innovation, progress, and dedication that drives us forward.

The new logo encapsulates our mission to lead while embracing future challenges in cancer care. It reflects our ongoing commitment to advancing oncology treatments, research, and compassionate patient care.

As we unveil this refreshed identity, we remain deeply rooted in the human care values that have guided us for almost three decades. We look forward to sharing this next phase of our journey with our patients, staff, and the wider community.

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