SCIENCE AND TECHNOLOGY

are living in the time of science and technology. The life e are living in the time of science and technology. The life of all of us is dependent on the scientific inventions and technologies of the modern times. Science and technology have influenced the lives of people to a large extent. It has made life easier, simpler and faster. In the new era, the development of science has brought us the convenience of air travel from bullock cart ride. Every aspect of science and technology modernization has been implemented in each nation. Modern gadgets have been invented to handle every walk of life and solve almost all the problems. It was not possible to reap all the benefits without implementing it in the medical, education, infrastructure, power generation, information technology and other sectors. New inventions have brought us many benefits. There is a lot of technology around us. Mobile phone, TV, computer, internet, oven, fridge, washing machine, water extraction motor, motor cycle, ship, train, bus, means of transport, everything has been possible with the help of modern technology. With the help of new types of medicines and medical equipments, treatment of complex diseases has also become possible. In this way we can say that in today's time without modern technology our life is also not possible. For the proper development and growth of the country, it is very necessary to go hand in hand with science and technology. Villages are now developing in the form of towns and towns in the form of cities and thus there has been a lot of development in the sectors of the economy.

We Are Indians First

e are Indians first. States have been carved out on linguistic basis for administrative convenience. Language should not be a wall between one Indian and another Indian. Karnataka government launched free bus ride for women from June 11th as per the promise made by the Congress in its manifesto for the Assembly election.

There is no reason for majority of women not to be jubilant at the free-travel facility given as quid pro quo for the votes given to the Congress party. It is no secret that the government has already embarked on the idea of raising revenue from different sources. The government has no option but to rob the Peter to pay to Paul. Debates on freebies are going in electronic and print media over the financial stress falling on the shoulders of the government. Mixed opinion on freebies are emerging in debates. The people must endure the pros and cons of freebies. What is disturbing is the discrimination among the women of Karnataka and women of other states in extending free-travel boon. Any Indian woman should have been accorded the same gesture which women from Karnataka enjoy. There will not be non-Karnataka woman occupant in every bus. There will not be as many non-Karnataka women as Karnataka women in any bus.

Former Karnataka minister Shamanur Shiyashankarappa has chided his own party government for its discrimination between Karnataka women and non-Karnataka women.

The government would not have lost anything heavily in terms of revenue if the Karnataka women had been allowed to travel to the places outside Karnataka in the buses that ply from Karnataka to other states.

If Karnataka government had shown gesture to allow women from other states to travel for free and allowed all the Karnataka women to travel for free for places outside the state in the buses that ply to other states, it would have been a nice gesture for other states to emulate the example of Karnataka. It is not illogical to say that the women from other states do not have their hand in the election of the Karnataka government because they have not voted. All the women from Karnataka have also not voted for Congress in exchange for the freebies. Party-loyalty, the financial stress likely to be placed on government if freebies are given, common sense of women that the freebies given in one hand are usurped from the other by raising tax on commodities have refrained the women from voting to Congress en bloc. If all women not voted for Congress can reap the advantage of freetravel in any bus, it would not make large hole in the pocket of KSRTC bus if a few women from outside the state are given the benefit of free-travel.

Charity must begin at home. Free bus ride for all Indian women in Karnataka would have motivated other states where women are enjoying the free-travel facility to allow Karnataka women for free travel. It is all give and take. And we are Indians first.

Modi stresses capacity building for employees

-n this world everything is dynamic, changing and in a state of flux and the employees, government officers and all those manning the system should also be abreast of the changing scenario and they should not feel themselves redundant.

Therefore for this the importance of capacity building is very much and so all the government officials should participate in the programs of capacity building so that the keep themselves aware of the changing contours of the organizations and departments.

Prime minister Narendra Modi inaugurated first ever National Training Conclave at the International Exhibition and Convention Centre in Pragati Maidan on Sunday.

Modi emphasized the need ,necessity and importance of service orientation of government workers and stressed the need for meeting the aspirations of the common citizenry by the government

At every level and state of the administrative hierarchy there is need for capacity building of the government employees so that they are kept informed about the changes in the conditions and systems of work. Modi also said that it is the responsi-

bility of the government employees to boost the faith of the public in the government system and stressed the need and importance of capacity building for all government officials and emphasized ending working in silos and increasing

Bhagidari-people's participation and government narrated several anecdotes

the system so that good service is provided to the citizens.

Modi stressed that the experience of every employees should be used to improve the system and deliver the best services to the common man.

There is need to orient and develop training modules in such a way as to inculcate in the government officials all these necessary things.

The training should nature the potential of the employees at all the levels of the system and the employees should break the hierarchy and meet the aspirations of the public.

Moreover the employees should work with missionary zeal and spirit and work with great dedication and devotion to

Only money should not be the sole criteria of doing government work but service to the people should be the motto of all government officials.

Modi referred to his experience as the chief minister of Gujarat and the prime minister of the country and said that there is no dearth of talented and dedicated employees and the need is to nurture their potential so that they will deliver best possible service to the pub-

He further said that just as the army has built impeachable credibility for itself in the eyes of the countrymen, so it is the responsibility and bounden duty of all employees to boost the faith of the citizens in the governmental system and delivery mechanism.

Modi while addressing the big gather-He also impressed on the need of Jan ing of the officer and employees of the

edge and experience which showed his political and administrative experience as per the statement of PMO.

He also said that there is much change in the attitude of the employees in relation to their posting in training insti-

Earlier posting in training institutes was considered as punishment but now this notion has changed for better.

Modi laid stress that the training institutes are the most important places which nurture the potential of the officers and employees so that they work in proper way and deliver the best services to the people.

He also talked about vertical and horizontal silos as well as the shackles of hierarchy and exhorted the employees to overcome these barriers and meet the aspirations of the people.

Modi stressed the need to gain administrative skill and the experience for working from those who are much experienced irrespective of the hierarchy and meet the needs and aspirations of the people.

He further said that training should inculcate the spirit of Jan Baghdari in all employees and credited the success of Swachh Bharat Mission, Aspirational Districts Programme and such other schemes of the government to the peoples participation.

In a democracy the involvement and participation of the people is very much needed and it is only on the sound basis of peoples participation that the best services will be delivered to the common citizens.

Modi said that training is for each and

iGOT Karmayogi platform has brought about a level playing field as it gives opportunities to everyone to actively participate in the training and become an asset for the department /organiza-

According to Modi Karmayogi Mission seeks to improve the orientation, mindset and approach needed for improvement of governmental system so that it

meets the aspirations of the people. This mission also seeks to make the employees contented and happy and so because of the attitudinal change in the employees they will work to their fullest capacity and capability in order to meet the demands and expectations of the

In short what is needed is that the officers and employees should be oriented with capacity building training programs so that they can serve the public in the best manner and also to change the notion of the people towards the government system and this is a welcome development and it should be encouraged for the good of the employees and the public.

Modi said that the present conclave is to learn and serve better.

He also tweeted that, "Attended the National Training Conclave today a part of our efforts to learn and serve better .Highlighted the importance of capacity building ,ending silos and enhancing service delivery.

Modi said we shall continue to turn the challenges into opportunities for transforming the country into new India.

(The author is a columnist, social and KP activist).

Paediatric Pancreatic Cancer: Signs and Risk factors to watch out for

■ DR SANKETH KOTNE

ancreatic cancer is rare to begin with, and rarer in childhood. Physicians may tend to miss a timely diagnosis for pediatric cases. Pancreatic cancer, across all ages, ranks 24th in incidence in India, but 18th in mortality. It is a rare site but one of the leading mortality sites in cancer patients.

The prognosis, based on the type of tumour and its potential to metastasize, is often poor because the disease remains asymptomatic in its early stages. By the time signs develop, the cancer has usually advanced locally or is metastatic. The poor long-term outcome of pancreatic cancer in both adults and children is even more reason for us to reinforce the steps to prevent it, ideally in childhood. Pancreatic tumors can form when cells in the pancreas begin to grow uncontrollably and form a mass or lump.

Pancreatic tumours are different in childhood from adulthood and tend to have better treatment outcomes. An early diagnosis and management of tumours which may be potentially malignant (insulinoma, gastrinoma etc.) or are primarily malignant (pancreatoblastoma) are critical to increase survival rates.

We know from genetic studies that certain gene mutations and family history (of pancreatic cancer) may lead to a predisposition towards pancreatic cancer in childhood. Diabetes Type 1 at an early age is considered as a risk for pancreatic cancer. High exposure to toxic pesticides such as benzene and toluene, too, have been known to increase the risk of pediatric pancreatic

Childhood provides a window for doctors to initiate preventative management by identifying, assessing and

where possible, treating predispositions towards pancreatic malignancy. Certain predispositions such as genetic mutations or child-obesity (especially, high BMI in children between 7 and 13 years of age) which may be diagnosed at an early age, and some childhood diseases, such as pediatric cancers and diabetes Type 1 and 2, which may trigger pancreatic cancer in adulthood, should be closely monitored by doctors to prevent adult incidence of the disease.

If pancreatic tumours don't secrete hormones, then it is difficult to diagnose early. But secretions from malignant tumours create signs which aid in diagnosis. Some perceptible signs of pediatric pancreatic cancer are Unexplained weight loss or gain, and chronic fatigue, but given their nature, may get misdiagnosed first, causing delays in treatment; Low blood sugar or low sodium level, leading to blurred vision, muscle weakness, headaches, dizziness, profuse sweating, unabated hunger, confusion; Reflux in the food pipe; Chronic/watery diarrhea, gastrointestinal bleeding, nausea, and vomiting; Appetite loss; Palpable lump in the abdomen: Recurrent stomach ulcers: Constantly feeling thirsty, passing less urine, dry skin, and dry mouth; High blood pressure; Purple stretch marks; Seizures; and Jaundice if a tumor in the pancreas blocks the bile duct, leading to a bilirubin build-

Pediatricians should consider the possibility of pediatric pancreatic cancer during the follow-up of children who have experienced idiopathic acute pancreatitis or cholestatic hepatitis in the past.

Many of the signs of pediatric pancreatic cancer can be mistaken for other diseases and should be investigated with imaging and histopathological exams, especially the risk groups.

Diagnosing pediatric pancreatic cancer can be challenging, as it is a relatively rare type of cancer in children. It can be diagnosed through CT scan, ultrasound, MRI, blood tests, endoscopy and biopsy.

Pancreatoblastoma is the most common neoplasm in children with the disease. Treatment of any kind of pediatric pancreatic cancer will depend on the nature of the malignancy, its site, and the stage of metastasis. Surgery such as a Whipple procedure, chemotherapy, and targeted therapy (mTOR inhibitor therapy) are the primary ways to treat it. A pediatric oncologist would be the specialist who would head the team of other pediatric health personnel to draw up a treatment plan. Given the rarity of the incidence, participating in a clinical trial could also be considered.

Palliative care comprising pain management, symptomatic relief, and emotional and psychological support for the child and family may be necessary to ensure the pediatric patient's quality of life is maintained as much as possible.

Extensive screenings strategies for monitoring riskprone children need an effort from both families and the medical community. Children with hereditary diseases associated with pancreatic cancer or with familyoccurrences of such conditions should be regularly screened for pancreatic cancer. Screening the pediatric population for diabetes mellitus and obesity will not just help prevent pediatric pancreatic cancer, but also the later onset of pancreatic cancer in adulthood.

(The author is Consultant Medical Oncologist, HCG Cancer Centre Vizag).

HPV Vaccination: Impact on Cervical Cancer Prevention and Control

ervical cancer is a significant global health issue, affecting millions of women worldwide. Human Jpapillomavirus (HPV) infection is a major risk factor for the development of cervical cancer. Fortunately, the introduction of HPV vaccines has revolutionized cervical cancer prevention and control strategies. HPV is a common sexually transmitted infection, with more than 100 different types identified. Certain high-risk types, such as HPV-16 and HPV-18, are responsible for approximately 70% of all cervical cancer cases. Persistent infection with these high-risk HPV types can lead to the development of precancerous lesions, which, if left untreated, may progress to invasive cervical cancer over time.

The Role of HPV Vaccines: HPV vaccines are designed to prevent infection with high-risk HPV types, thereby reducing the risk of cervical cancer. Currently, there are three HPV vaccines available: Gardasil, Gardasil 9, and Cervarix. These vaccines target various HPV types, including those responsible for most cases of cervical cancer. They work by stimulating the immune system to produce antibodies that neutralize the virus, preventing its entry into cells and subsequent infection.

Impact on Cervical Cancer Incidence: Since the introduction of HPV vaccination programs in many coun-

tries, significant reductions in HPV infection rates and cervical cancer incidence have been observed. Studies have shown that vaccinated populations have lower rates of HPV infection and precancerous lesions compared to unvaccinated populations. One of the remarkable advantages of HPV vaccination is the potential for herd immunity. By vaccinating a significant portion of the population, the transmission of HPV can be significantly reduced, protecting both vaccinated and unvaccinated individuals. This population-level effect has been demonstrated in numerous studies, highlighting the importance of high vaccination coverage to achieve maximum benefits in terms of cervical cancer preven-

Impact on Cervical Cancer Screening: HPV vaccination complements existing cervical cancer screening programs. While vaccination reduces the overall burden of HPV infection and related diseases, it does not eliminate the risk entirely. Therefore, regular cervical cancer screening, such as Pap smears or HPV testing, remains essential, even for vaccinated individuals. However, vaccinated individuals may benefit from reduced screening frequency or modified screening algorithms, as the risk of developing precancerous lesions is significantly lower.

What if you don't belong to the recommended vaccine

HPV vaccine is administered in a 2-dose schedule for ages 9-14 and 3 dose schedule for those over 15 years with catch up age up to 26 years. But nevertheless, it is approved for usage even up to age 45 years with definitely some benefit irrespective of being sexually active or not. For those who do not belong to the recommended age group, there are still several important steps they can take to protect themselves from the dis-

Regular Pap tests/screenings: Pap tests, also known as Pap smears, are essential for detecting cervical cell changes and early signs of cancer. Regular screenings can help identify any abnormalities early on, allowing for timely intervention and treatment. HPV testing is typically done in conjunction with Pap tests, however it can be done as a standalone test in certain cases. HPV testing can identify the presence of high-risk HPV strains that are linked to cervical cancer, even before any abnormal cells are detected.

Safe sexual practices: Practicing safe sex, including consistent condom use, can reduce the risk of HPV transmission. While condoms provide some protection, they may not cover all potentially infected areas. Therefore, it's important to note that HPV can still be transmitted through areas not covered by condoms. Limiting sexual partners and choosing partners who have had fewer sexual partners can also reduce the risk of exposure to HPV.

Education and awareness: Staying informed about cervical cancer, its risk factors, and the importance of regular screenings is crucial. Educate vourself about the signs and symptoms of cervical cancer and seek medical attention promptly if you notice any unusual changes, such as abnormal vaginal bleeding, pelvic pain, or unusual discharge.

Lifestyle choices: Maintaining a healthy lifestyle can contribute to overall well-being and potentially reduce the risk of cervical cancer. This includes regular exercise, a balanced diet rich in fruits and vegetables, avoiding tobacco products, and limiting alcohol consumption.

HPV vaccination has had a profound impact on cervical cancer prevention and control. It has demonstrated efficacy in reducing HPV infections, precancerous lesions, and cervical cancer incidence. Combined with effective cervical cancer screening, HPV vaccination offers a comprehensive approach to reducing the burden of this disease globally. Continued efforts to improve vaccine accessibility, increase awareness, and ensure high vaccination coverage are essential for maximizing the benefits of HPV vaccination and achieving significant progress in cervical cancer prevention and control.

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Skin Cancer: how to recognize and identify early signs to treat them

■ DR GAURAV GOEL

ancer is a serious disease that occurs when abnormal cells grow uncontrol- ${\cal J}$ lably in the body. There are many types of cancer, and it can affect anyone regardless of age, gender, or ethnicity. Skin cancer is a prevalent ailment that affects millions of people worldwide. It is an abnormal growth of cells that begins to develop on the skin's surface, usually from exposure to ultraviolet radiation. There are several skin cancer types, each with its peculiar attributes and treatment options. Below are the most typical forms of skin cancer, including basal cell carcinoma, squamous cell carcinoma, and

melanoma. Basal Carcinoma: CellCarcinoma (BCC), which accounts for about 80% of all cases, develops on areasof the skin exposed to the sun, such as the face,

neck and hands. BCC growsslowly but can be locally invasive, damaging the surrounding tissue. The most common type of BCC is a raised, pearly, or shiny bump that may have tiny bloodvessels on the surface. It may also appear as a flat, scaly, or reddish patchon the skin. The tumor may become more extensive if left untreated, causing disfigurement or other complications. The treatment of BCC typically requires the surgical removal of the tumor and a small margin of surrounding tissue. Other forms of treatment may includeradiation therapy, topical medications, or cryotherapy, which entails freezingthe tumor with liquid nitrogen.

Squamous Cell Carcinoma: Squamous Cell Carcinoma (SCC) is the second most common type of skin cancer. It accounts for 20% of all cases and is more likely to increase than BCC. SCC develops inskin areas

exposed to the sun, such as the face, ears, and hands. The mostfrequent symptom of SCC is a firm, red bump or a scaly patch on the skin thatmay bleed or crust over. It may also appear as a wart-like growth or an opensore that does not heal. Treatment for SCC generally involves surgical removal of the tumor and the surroundingtissue margin. Other treatment options may include radiation therapy, topicalmedications, or photodynamic therapy, which utilizes light to activate a photosensitizing agent that destroys cancer cells

Melanoma: Melanoma is the deadliest form of skin cancer, accounting for about 1% of all cases. It can grow anywhere on the skin. including areas not exposed to the sun. Melanoma spreads quickly to other body parts and can be life-threatening if not diagnosed and treated promptly. The most com-

mon symptom of melanoma is anew or changing mole or dark spot on the skin. It may be asymmetrical, have irregular borders, be multi-coloured, or have a diameter larger than a pencil eraser. Treatment of melanoma usually involves surgical removal of the tumor and the surrounding tissue margin. Other treatment options may include immunotherapy, targeted therapy, radiation therapy, or chemotherapy.

Protecting your skin from the sun's harmful UV rays is the best way to prevent skin cancer. This can be done by wearing protective clothing, such as long-sleeved shirts and hats, and using a broad-spectrum sunscreen with an SPF 30 or higher. Furthermore, avoiding tanning beds and seeking shade during peak sun hours is also essential. Wearing sunglasses that block both UV-B and UV-A rays to protect your eyes and using a lip balm with sunscreen is also an excellent way to protect different areas of skin.

Early detection is also crucial for the successful treatment of skin cancer. One should perform regular self - examinations of your skin and report any changes to your doctor. It is recommended to have routine skin cancer screenings, especially if you have a family history of skin cancer or have previously had skin cancer. Thus, it wouldn't be incorrect to say that skin cancer is a severe condition with life-altering consequences if not detected and treated early. Understanding the different types of skin cancer is vital in recognizing the signs and seeking appropriate treatment. Remember to prioritize your skin health and consult if you notice any concerning changes in your skin.

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