



CARF

News Bulletin

(Official Publication Of The Cancer Aid & Research Foundation)

Member: UICC (International Union against Cancer), Geneva, Switzerland

Internet Journal of Head & Neck Surgery [www.ispub.com] - official scientific journal of CARF

Tumours contain the seeds of their own destruction

As a tumour develops, the diversity of its genetic faults can be flagged on the cancer cell surface, as unique mutations appear in different parts of the tumour.

Credit: Image courtesy of Cancer Research UK

Scientists at UCL have made a groundbreaking discovery in understanding how the genetic complexity of tumours can be recognised and exploited by the immune system, even when the disease is at its most advanced stages.

The findings, by researchers funded by Cancer Research UK and the Rosetrees Trust, could guide future immunotherapies and improve the way existing immunotherapy drugs are used.

As a tumour develops, the diversity of its genetic faults can be flagged on the cancer cell surface, as unique mutations appear in different parts of the tumour.

Crucially, by analysing data from hundreds of patients from previous studies, researchers found that some of these flags – known as antigens – represent the very earliest mutations of the disease and are displayed on all cells in the tumour, rather than a subset of tumour cells.

Then in the lab, they isolated specialised immune cells, called T-cells, from samples of two patients with lung cancer that can recognise these common flags present on every tumour cell.

Although they have the potential to wipe out all cancerous cells within the tumour, these potent immune cells are switched off by the tumour's defences.

This research, published in *Science*, paves the way for therapies that specifically activate these T cells to target all the tumour cells at once based on the disease's genetic signature.

In the future, scientists could exploit this by developing a therapeutic vaccine to activate T-cells, or harvesting, growing and administering T-cells back into the patient that recognise the antigens common to every cancer cell.

Dr Sergio Quezada, co-author of the study, Cancer Research UK scientist and head of the Immune Regulation and Cancer Immunotherapy lab at UCL Cancer Institute, said: "The body's immune system acts as the police trying to tackle cancer, the criminals. Genetically diverse tumours are like a gang of hoodlums involved in different crimes - from robbery to smuggling. And the immune system struggles to keep on top of the cancer – just as it's difficult for police when there's so much going on.

"Our research shows that instead of aimlessly chasing crimes in different neighbourhoods, we can give the police the information they need to get to the kingpin at the root of all organised crime – or the weak spot in a patient's tumour – to wipe out the problem for good."

The genetic complexity of cancer, which is flagged by tumour antigens, arises when cancers evolve in a branched manner. The earliest faults are found in all cells, forming the 'trunk' of the disease, while later mutations arise in some cells but not all. It is these 'branches' that allow the disease to adapt and become drug resistant.

Professor Charles Swanton, co-author from the UCL Cancer Institute and a Francis Crick Institute scientist, said: "This is exciting. There was evidence that complex tumours with many mutations could increase the chance of the immune system spotting them; now we can prioritise and target tumour antigens that are present in every cell, the Achilles heel of these highly complex cancers.

"This opens up a way to look at individual patients' tumours and profile all the antigen variations to figure out the best ways for immunotherapy treatments to work, prioritising antigens present in every tumour cell and identifying the body's immune T cells that recognise them. This is really fascinating, and takes personalised medicine to its absolute limit where each patient would have a unique, bespoke treatment."

Dr Quezada added: "For many years we have studied how the immune response to cancer is regulated without a clear understanding of what it is that immune cells recognise on cancerous cells. Based on these new findings, we will be able to tell the immune system how to specifically recognise and attack tumours."

Professor Peter Johnson, Cancer Research UK's chief clinician, said: "This fascinating research gives us vital clues about how to specifically tailor treatment for a patient using their immune system.

"It gets us closer to knowing why some patients respond to immunotherapy treatment and others don't, and how we might select which patients will benefit the most.

"As well as suggesting a new way to treat cancer, the research fills key gaps in our knowledge about the effects of the immune system on tumours. This gives us hope of developing better treatments for some of the cancers we have previously found hardest to treat."

*McGranahan et al. Clonal neoantigens elicit T cell immunoreactivity and sensitivity to immune checkpoint blockade. *Science*

**This phenomenon was first reported by Cancer Research UK scientists in 2012 who were studying kidney cancer. This followed work at The Institute of Cancer Research that had found the same in blood cancers.

Dr. Niraj Kumar (MBBS, MD, DM, Medanta Hospital)

Thoughts Of.....



Dr. Arvind Srivastwa
MBBS, DMRD, DNB,
Breach Candy Hospital,
Mumbai,
Maharashtra.

COLON CANCER

Cancers of the colon and rectum (colorectal cancer) start when the process of the normal replacement of lining cells goes awry. Mistakes in mucosal cell division occur frequently. When this occurs, these cells begin to divide independently of the normal checks and balances that control growth. As these abnormal cells grow and divide, they can lead to growths within the colon called polyps. As polyps grow, additional genetic mutations further destabilize the cells and can make the cells more bizarre. When these precancerous tumors change direction (growing into the wall of the tube rather than into the space in the middle of it) and invade other layers of the large intestine (such as the submucosa or muscular layer), the precancerous polyp has become cancerous. In most cases this process is slow, taking at least 8 to 10 years to develop from those early aberrant cells to a frank cancer.

Once a colorectal cancer forms, it begins to grow in two ways. First, the cancer can grow locally and extend through the wall of the intestine and invade adjacent structures, making the mass (called the primary tumor) more of a problem and harder to remove. Local extension can cause additional symptoms [such as pain](#) or fullness, perforation of the colon, or blockages of the colon or nearby structures. Second, as the cancer grows it begins the process of metastasis, shedding thousands of cells a day into the blood and lymphatic system that can cause cancers to form in distant locations. Colorectal cancers most commonly spread first to local lymph nodes before traveling to distant organs. Once local lymph nodes are involved, it spread to the liver, the abdominal cavity, and the lungs are the next most common destinations of metastatic spread

CAUSES:

Diet

Diets high in fat are believed to predispose people to colorectal cancer. It is believed that the digestion of fat that occurs in the small intestine and the colon leads to the formation of cancer-causing chemicals (carcinogens). Diets high in vegetables and high-fiber foods such as whole-grain breads and cereals contain less fat that produces these carcinogens and may counter the effects of the carcinogens. Both effects would help reduce the risk of cancer.

Colon polyps

Doctors believe that most colorectal cancers develop in colorectal polyps. Therefore, removing benign (but precancerous) colorectal polyps can prevent colorectal cancer. Precancerous colorectal polyps are most commonly called adenomatous polyps.

Ulcerative colitis

Chronic ulcerative colitis causes inflammation of the inner lining of the colon. Colon cancer is a recognized complication of chronic ulcerative colitis. The risk for cancer begins to increase after 8 to 10 years of colitis. The risk of developing colon cancer in a patient with ulcerative colitis also is related to the location and the extent of his or her disease. Patients at higher risk of cancer are those with a family history of colon cancer, a long duration of ulcerative colitis, extensive colon involvement with ulcerative colitis, and those with ulcerative colitis associated liver disease, sclerosing cholangitis. Since the cancers associated with ulcerative colitis have a more favorable outcome when caught at an earlier stage, yearly examinations of the colon often are recommended after 8 years of known extensive disease

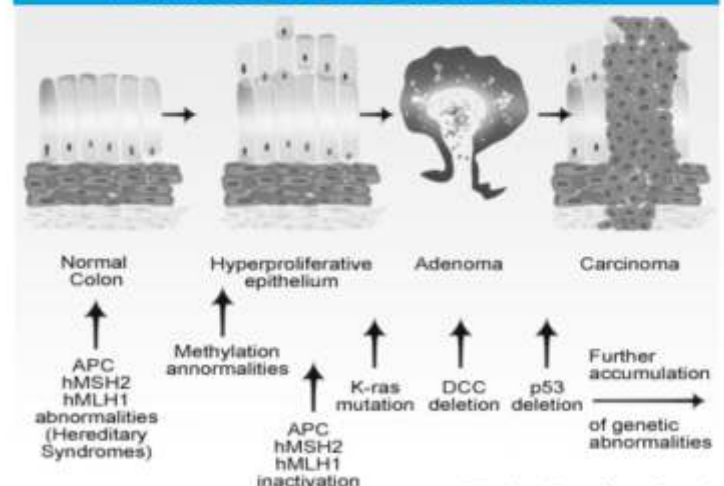
Genetics

A person's genetic background is an important factor in colon cancer risk.

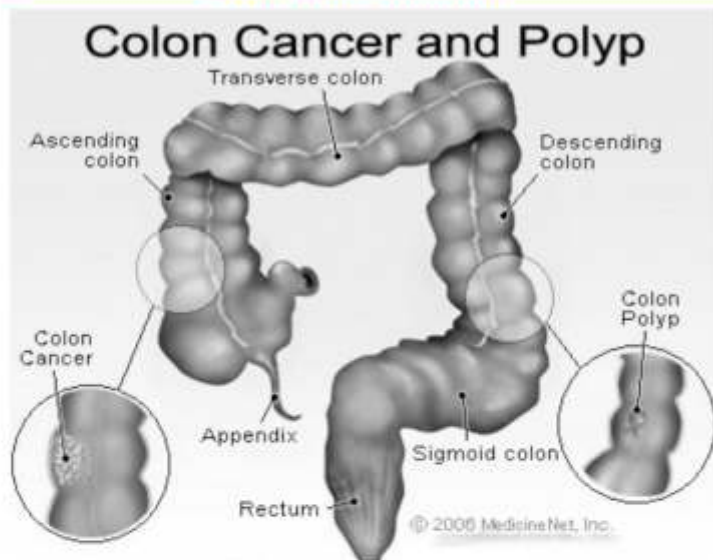
SYMPTOMS

Symptoms of colorectal cancer are numerous and nonspecific. They include weakness, fatigue, shortness of breath, diarrhea or constipation, red or dark blood in stool, bloating. Irritable bowel syndrome, ulcerative colitis and peptic ulcer disease can have symptoms that mimic colorectal cancer. Colorectal cancer can be present for several years before symptoms develop. Symptoms vary according to where in the large intestine the tumor is located.

Formation of Colon Cancer



(To be Continued.....)



INVESTIGATIONS

In order to detect colon cancer, Barium enema x ray is done. Screening is done through CT Colonography and tumour marker blood test of CEA (carcinoembryonic antigen). Confirmation and location of the tumour is done by colonoscopy and sigmoidoscopy.

PREVENTIONS

The most effective way of prevention for colorectal cancer is early detection and removal of precancerous colorectal polyps before they turn cancerous. Even in cases where cancer has already developed, early detection still significantly improves the chances of a cure by surgically removing the cancer before the disease spreads to other organs.

Digital rectal examination and stool occult blood testing

It is recommended that all individuals over the age of 40 have yearly digital examinations of the rectum and their stool tested for hidden or "occult" blood.

Diet and colon cancer to prevent colon cancer

People can change their eating habits by reducing fat intake and increasing fiber (roughage) in their diet.

Genetic counseling and testing

Blood tests are now available to test for FAP, AFAP, MYH, and HNPCC hereditary colon cancer syndromes. Families with multiple members having colon cancers, multiple colon polyps, cancers at young ages, and other cancers such as cancers of the ureters, uterus, duodenum, and more, should be referred for genetic counseling, followed possibly by genetic testing.

TREATMENT

Surgery is the most common initial treatment for colorectal cancer. When a colorectal cancer is diagnosed, additional

tests are performed to determine the extent of the disease. This process is called staging.

Staging determines how advanced a colorectal cancer has become. The staging for colorectal cancer ranges from stage I, the least advanced cancer, to stage IV, the most advanced cancer. There are several different options for adjuvant chemotherapy for the treatment of colon cancer. The treatments involve a combination of chemotherapy drugs given orally or into the veins. The treatments typically are given for a total of 6 months. In general, anticancer medications destroy cells that are rapidly growing and dividing. Therefore, normal red blood cells, platelets, and white blood cells that also are growing rapidly can be affected by chemotherapy. As a result, common side effects include anemia, loss of energy, and a low resistance to infections. Cells in the hair roots and intestines also divide rapidly. Therefore, chemotherapy can cause hair loss, mouth sores, nausea, vomiting, and diarrhea, but these effects are transient.

FOLLOW UP CARE

Individuals diagnosed with colorectal cancer remain at risk of their cancer returning for up to 10 years after their original diagnosis and treatment, although the risk of recurrence is much higher in the first few years. If a recurrence is noted either locally or with metastatic spread, individuals may still be treated with the intention of cure. For example, if a new tumor were to recur in the liver, individuals can be treated with a combination of chemotherapy and surgery (or sophisticated radiation techniques) in hopes of eradicating the cancer completely.

Health Tips

Mustard oil has glucosinolate, which is anti-carcinogenic. It stops the formation of cancerous tumours.

Mumbai Mirror Dec 20, 2015.

CARF wishes Happy Birthday to:

Mr. Jayant Patil	16 th Feb
Mr. Sajid Nadiadwala	18 th Feb
Mr. Vaseem Shaikh	10 th Mar
Prin (Mrs.) Rashida Kazi	20 th Mar
Mr. Shamshi Mulla	21 th Mar



This is to express my gratitude towards Cancer Aid & Research Foundation. You have been of great support in treatment of my grandfather, Mr. Gulab Chand Gupta. Your issuing of medicines on timely way is very much appreciated. Thank You for all the help you have provided.

डा. गुलाबचंद गुप्ता
Gulab Chand Gupta
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Shastri Nagar, Anand
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Philately-Kid O
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File No: 123/14-15
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Tel: 2300 7000/8000/5000



CARF celebrated **“World Cancer Day”**, this year by organising **“MUSEUM ON WHEELS”** a Travelling Exhibition. Our Cancer patients (Children) along with their parents were part of the event.

It was an Educational activity where there was an Interactive session, giving a very good opportunity to the cancer affected kids to gain knowledge about:

- The Magic Workers of Harappa – that highlighted the skills and technology from Harappan Civilisation which still continues as our legacy even today.
- Workshop on Harappan Seals and Scripts, scrutinizing the artefacts, site images, Brick making, Lost wax casting, Pottery making.
- Watching Educational Film screened on Harappan Civilisation.

We received very good response as the number of participants for the event were 70 Cancer children and 80 family members of them. By having this event for the poor Cancer kids & their families we wanted to send a global message saying **“WE CARE FOR THEM”**. The function concluded with serving of snacks & lunch to all Cancer Kids & their families.

CARFIANS also organised a **“CARF DRIVE”** in South Mumbai, wherein there was active participation of all the staff in putting **“Cancer Awareness”** stickers on vehicles & distributed booklets which stressed on guidelines & spread awareness amongst our masses as to how **NON SMOKING** is one big step towards prevention of Cancer.

We express our deepest thanks to CSMVS **“MUSEUM ON WHEELS”** for joining hands with CARF to make **“World Cancer Day 2016”** such a successful event & our Cancer kids & their families went back home with beautiful smiles on their faces.



Cancer Survivor



This is about **Suraj Patil**, now a 19 years old courageous boy who fought with the dreaded disease of cancer and is enjoying a happy life with his family. Suraj had just passed his SSC and was hoping for a great future ahead, when on the eve of July 3rd 2013, he was struck with high fever. He was taken to the family physician but did not show signs of improvement. He was then taken to paramilitary hospital at Panvel as the fever did not subside and was bleeding from his ears. Suraj was treated there by Dr. Gandhi and Dr. Palekar who did the blood investigations and the reports showed low WBC and Platelet count. He stayed there for about 10-12 days during which period platelet transfusion was done but he did not recover completely.

His family then took him to Dr. Agarwal at Matunga, who after doing the biopsy diagnosed his condition as promyelocytic leukemia (a type of blood cancer). The whole family was shattered with this news. His father, who is a carpenter had to take care of a family of five. It was getting very difficult for him to bear the burden of his treatment. On 21st July, Suraj was admitted to Nair Hospital, where doctors decided to start with chemotherapy. Seeing his financial condition, Dr. Santosh of Nair Hospital introduced him to CARF which helped him in his chemotherapy treatment. He underwent 13 sessions of chemotherapy and with his willpower, determination and guidance from CARF related to his diet and immunity, was able to defeat the disease.

Suraj, as a fighter, was able to clear his HSC during the treatment and scored 60%. Currently, he is on Acyclovir drug regularly and as a regular collegian is pursuing his studies. We at CARF wish Suraj all the very best for his future.

CARF Safety Drive



On the occasion of "National Road Safety day", CARF took active participation to support this National Movement. We organised a 'CARF SAFETY DRIVE' at R.T.O. office, Wadala, Mumbai. Present in the drive were our CEO – Mr. Shamshi Mulla, COO – Mrs. Savita Nathani & DGM – Mrs. Tabassum Khan. This was done with the support of RTO staff - Mr. Sanjay Sasane (Deputy RTO), Mr. Vijay C. Bhoje (Asst. R.T.O), Mr. Ashok Shinde and other R.T.O. staff. The event was a great success as we got very good support from the public. We put approx. 1000 road safety stickers on auto rickshaws and also explained the auto drivers rules & regulations on Road Safety. This was followed by distribution of cancer literature to spread cancer awareness.

Talk Program

Mrs. Rashida Kazi, Chairperson welcomed and introduced Dr. Naseeruddin Khan speaker of the day. The lecture was very fruitful and imparted useful information to all our cancer patients and their families. In the question/ answer session, Doctor solved the patients queries and guided them accordingly on medical grounds. He informed them about the "RAJIV GANDHI" scheme available in few private hospitals whereby they could avail the facility. Chairperson appreciated the doctor's efforts and complimented for his inspiring lecture which motivated the patients. She concluded with a vote of thanks.



Dr. Naseeruddin Khan (M.B.B.S., F.C.C.M.)

Mumbai MARATHON 2016

CARFIANS participated in the Standard Chartered Mumbai Marathon 2016 held on 17th January, 2016 with great zeal and enthusiasm. The main theme this year was "Cigarette-Smoking Kills" supported by the symbol of a "hand with a Cigarette, choking to death" which was worn by all CARFIANS round their neck. The main purpose of participating in the Marathon is to raise funds by selling Marathon Bibs, the proceeds of which is utilised towards the funding and services for cancer treatment of poor and needy cancer patients. CARF had various slogans displayed in the form of banners & placards to spread awareness about cancer among mass. One of the slogan stated: "There is a CAN in cancer, because we CAN beat it"



ORATION & AWARDS 2015 - 2016



CANCER AID & RESEARCH FOUNDATION

Byculla Municipal School Bldg., Grd. Floor, N. M. Joshi Marg, Near 'S' Bridge, Byculla (W), Mumbai-11.

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Website : www.cancerarfoundation.org | Email : carf@cancerarfoundation.org / cancerarfoundation@yahoo.com



It gives us great pleasure to mention that CARF celebrated its **ORATION and AWARDS 2015-2016** function with great zeal & enthusiasm this year on **27th February 2016 (Saturday)** from 3.00 to 6.00pm at Rangswar, 4th floor, Yashwantrao Chawan Pratishthan, Gen. Jagannath Bhosle Marg, Opp. Mantralaya, Mumbai.

The topic for this year's Oration was "**Cancer and Palliation, Dual Therapy**".

The program began with the felicitation of all our Guests.

Our function was honoured by **Mr. S. Jayakumar (DCP), IPS, Zone III, Mumbai** as our Chief Guest. Chairperson – Prin. Mrs. Rashida Kazi, CEO - Mr. Shamshi Mulla, COO - Mrs. Savita Nathani were also part of the function. **Mr. Imran Vali Mohd. Khan, Dr. Majeed Momin & Dr. Rajshree Kumar Jha** were amongst our other guest. The Associate sponsor of the event was Neon Laboratories Ltd. Following were the Awardees of our event:

- **Dr. Suresh H. Advani**, Director Dept. of Medical Oncology, Jaslok Hospital & Research Centre, Mumbai – **Main Speaker of the Function & Lifetime Achievement** Awardee.
- **Dr. Vani Parmar**, Professor, Surgical Oncology, Officer-in-charge Breast Services, ACTREC Past Convener Breast Cancer DMG, Tata Memorial Center, Mumbai. - **Excellence in the field of Oncology.**
- **Mrs. Mary Goretti Xalxo**, Medical Social Worker, St. Elizabeth's Hospital, Mumbai - **Outstanding Contribution in the field of Cancer.**

The Highlights of the Function were:

- 1) The Inauguration of our New CARF Film that was screened for the first time and
- 2) Handing over Cheques & Gifts to our Cancer Patients.

The function was a great accomplishment as many renowned doctors, medical students were present. Patient's relatives & lay people benefited a lot from the medical talks.

- Registered under the Bombay Public Trust Act, 1950.
- Donations exempted under 80G of the Income-Tax Act, 1961
- E-mail: cancerarfoundation@yahoo.com | carf@cancerarfoundation.org
- Website: www.cancerarfoundation.org (New Website)
- Funding and services for cancer treatment including Surgery, Radiotherapy and Chemotherapy.
- CancerResearch. • Cancer Awareness and Education through CARF News Bulletin, Patients information leaflets and e-news letters. • Cancer screening and Detection Programme. • Anti Tobacco and Anti Cancer advocacy • Free Ambulance Service provided to cancer patients all over Mumbai • Counseling for cancer patients and their families • Cancer hotline. • Recreational activities for cancer patients • Providing free Anti Cancer Drugs, Prosthesis and Instruments to needy patients
- Providing career guidance and Rehabilitation to cancer patients and their relatives



The Govt. of India has also permitted us to receive overseas contributions under FC(R) Act, 1976 vide Registration No. 083780936. The same can be credited to 'Cancer Aid & Research Foundation' S.B A/c. No. 026104000088372, IDBI Bank, Prabhadevi Branch, Mumbai- 400 025. INDIA.

Please draw your cheque in the favour of **Cancer Aid & Research Foundation** and send it to its

Adm. Office: **Cancer Aid & Research Foundation** Municipal School Bldg., Ground Floor, Near 'S' Bridge, N.M. Joshi Marg, Byculla (W), Mumbai - 400 011. Tel. No : 0091-22-2300 5000 / 2306 4442 / 6455 6280-6303 (24 Lines) TeleFax: 2300 8000

All views expressed in the CARF News Bulletin belong to the author. The Foundation need not necessarily subscribe to them.

• *Chief Editor :*

Prin. (Mrs). Rashida Kazi

Fmr. Principal A. I. Girl's High school & Jr. College of Arts & Commerce, Mumbai. Chairperson, CARF

- *Chief Executive Officer : Mr. Shamshi Mulla*
- *Chief Operating Officer : Mrs. Savita Nathani*
- *Dy. Gen. Manager : Mrs. Tabassum S. Khan*



New Website Launched!

We are happy and proud to announce the launch of our newly designed website with a completely new look & layout altogether. To name a few improvements the website offers expanded content, improved usage and navigation and some added features.

We encourage you to explore our dynamic new website. You can find us now on www.cancerarfoundation.org.

Our main goal in launching the website is to make it more user friendly by providing our visitors an easier way to access more information about CARF and for better interaction. The site is also showing a live Facebook page along with our recent uploaded videos on YouTube. All this will in turn enable us to improve our communication with our visitors.

Amongst the Salient features the new site contains:

- Message to CARF'
- What you Can'
- Refer a Patient
- Join Us
- Charity Sale
- Press Room/ CARF Calendar and Internship

Hope you find our new website fresh and modern. We have really worked hard to make sure it contains valuable information to help your social needs. We will constantly update its contents with helpful information on newsletters, articles, datasheets of financial help required and raised.

If you have any comments or suggestions, please feel free to drop us a line at: shamshimulla@cancerarfoundation.org
savitathani@cancerarfoundation.org

PLEASE DONATE GENEROUSLY and help CARF
save lives of the poor and needy cancer patients

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