



# INTRODUCING THE MOST ADVANCED, PRIVATE, COMPREHENSIVE CANCER CARE CENTRE IN GUJARAT.

## HCG, now in Vadodara.

With a heritage of redefining cancer care in India, HCG is now in Gujarat with the expertise, technology and innovation that is comparable to some of the best cancer centres in the world.

HCG Vadodara, a 80 bed facility, offers the latest in cancer care with a multi-disciplinary approach in medical, surgical and radiation oncology. The expertise complemented by revolutionary state-of-the-art technology are available for the first time in the state of Gujarat.

- Preventive Oncology
- Diagnostics
- Surgical Oncology
- Radiation Oncology
- Medical Oncology

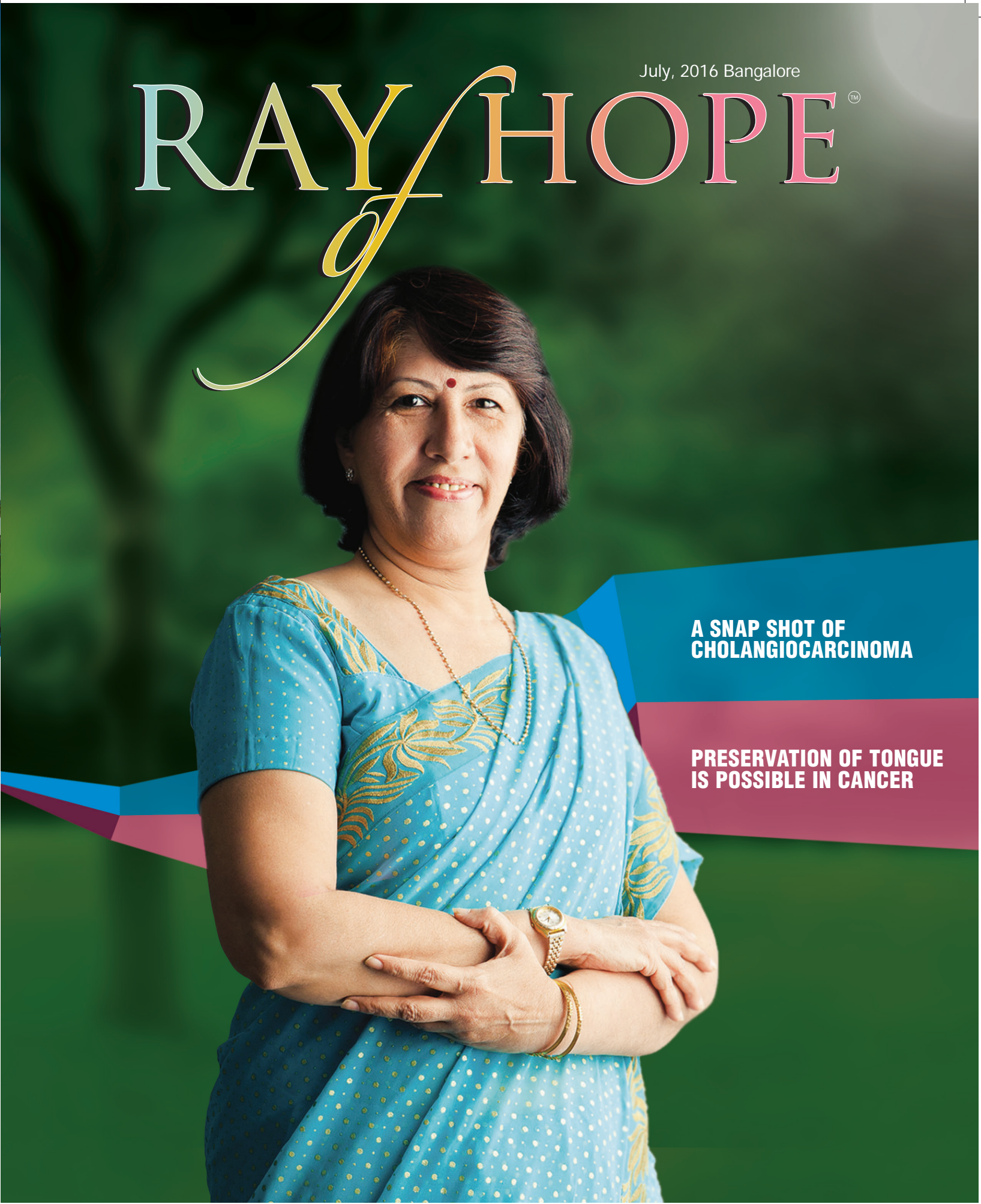
With a pan India presence across 20 centres, HCG is constantly evolving and innovating to ensure that you have access to the best in cancer care, no matter where you are.

**Today, we introduce the next generation of cancer care.**  
**Today, we are one step closer to the cure.**

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July, 2016 Bangalore

# RAY of HOPE™

**A SNAP SHOT OF CHOLANGIOCARCINOMA**

**PRESERVATION OF TONGUE IS POSSIBLE IN CANCER**





Dear Readers,

In this edition of Ray Of Hope, I am very happy to announce the launch of our new cancer centres in Visakhapatnam & Baroda. It gives me immense pleasure to say that HCG has been the leader in Oncology and with the launches of our new centres we have cancer care treatment accessible to people across India, through our comprehensive cancer care centres.

In April, we launched the state-of-the-art Comprehensive Cancer Centre in Visakhapatnam in association with Pinnacle Hospitals. HCG Pinnacle Cancer Centre will offer cancer care with a multi-disciplinary approach through specialist doctors in Medical, Surgical and Radiation Oncology and a team of experienced clinicians. It is also the only cancer care centre in Andhra Pradesh with a True Beam installation.

In May, we launched our advanced comprehensive cancer centre in Baroda. The new free-standing is one of the most advanced in terms of technology in the HCG network. This is HCG's second comprehensive cancer centre in the state of Gujarat which has the Thunderbeat Olympus make an entire array of fibre optic endoscope for minimal invasive surgery.

With the launch of these new centre HCG expands its national footprint and further extends position as the leading provider of cancer care in India. Our focus at HCG is providing our patients with quality care and organ preservation along with a approach in managing oncology cases.

In this edition of ROH we are presenting two cases. The case studies featured here showcase our management of advanced and rare tumours and our belief in organ preservation.

The first case study talks about how the preservation of tongue is possible in cancer and how the multimodality team of doctors in HCG hospitals, comprising of surgical oncologists, medical oncologists, radiation oncologists, speech and swallow therapist and psycho-oncologists helped an elderly man preserve his tongue, by suggesting a suitable treatment plan, while keeping in mind his cardiac condition.

While the second case explains Cholangiocarcinoma, which is a relatively rare tumour, arising from the lining epithelium of the bile duct. This has been on a rise in India and worldwide over the past few decades and is more common in females as compared to males.

HCG aims at treating cancer through a quality, multi-disciplinary approach that ends in a positive result and I hereby invite you to learn more about our cases, methods and events in this new issue. Till next time, I wish you good health.



Dr. B.S. Ajaikumar  
Chairman, HCG Group

B.S. Ajaikumar



## CHOLANGIOCARCINOMA A SNAP SHOT

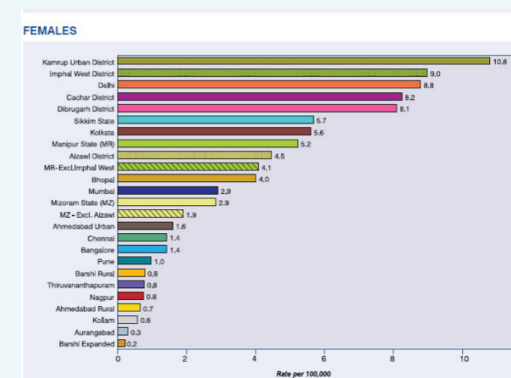
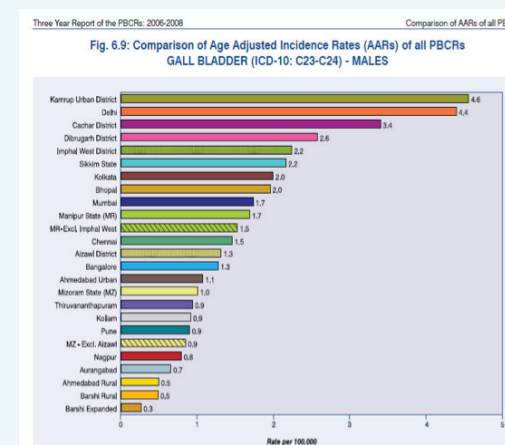
By Dr. Sindhu Ramamurthy  
Consultant - Radiation Oncology - HCG

Cholangiocarcinoma is a relatively rare tumour arising from the lining epithelium of the bile duct. It has an annual incidence rate of 1–2 cases per 100,000 in the world. The incidence rates of cholangiocarcinoma 3.3 cases per 100,000 in Bangalore. The incidence has been rising in India and worldwide over the past several decades. It's more common in females as compared to males.

Cholangiocarcinomas can either be intra-hepatic or extra-hepatic in origin, depending upon the part of bile canalicular system that they originate from. Prominent signs and symptoms of cholangiocarcinoma include abnormal liver function tests, abdominal pain, jaundice, and weight loss. Other symptoms such as generalized itching, fever, and changes in color of stool or urine may also occur. The disease is diagnosed through a combination of blood tests, imaging, endoscopy, and sometimes surgical exploration, with confirmation obtained after histopathological examination. These tumours can remain asymptomatic and present at advanced stage.

There are certain known risk factors for cholangiocarcinoma such as primary sclerosing cholangitis, infection with the parasitic liver flukes *Opisthorchis viverrini* or *Clonorchis sinensis*, some congenital liver malformations, and exposure to Thorotrast. However most people with cholangiocarcinoma have no identifiable risk factors.

Patients with cholangiocarcinoma are best managed through multimodality approach in treatment including surgery, chemotherapy, radiation therapy, and other supportive measures. In early stages surgery to remove the primary and lymph nodes draining the primary site, with or without adjuvant chemo radiotherapy, offers best chance of remission. Cholangiocarcinoma is considered to be an incurable and rapidly lethal cancer unless both the primary tumor and any metastases can be fully removed by surgery. Unfortunately, most people have advanced stage disease at presentation and are inoperable at the time of diagnosis in which case patients are generally treated with palliative chemotherapy, with or without radiotherapy.



## PRESERVATION OF TONGUE IS POSSIBLE IN CANCER

By Dr. Vijay Agarwal

Consultant – Medical Oncology

An elderly retired gentleman, about seventy-two years from Bangalore, had noticed the presence of a persistent ulcer on the right half of his tongue since January, 2015. He visited our hospital with the complaints of shooting pain at the tongue ulcer whenever he had a spicy meal. He had never been a smoker or a tobacco chewer. A biopsy of the ulcer was done and it revealed that it was a type of cancer (moderately differentiated squamous cell carcinoma). He was advised to undergo a whole body PET-CT scan, a newer modality of cancer diagnosis which helps to detect the precise location of cancer and its spread elsewhere in the body. It was found that the cancer had spread to his neck glands as well. Hence, he was diagnosed to have an advanced cancer of tongue in stage III. Incidentally, he was also found to have a cardiac problem, which made him a questionable candidate for surgery.

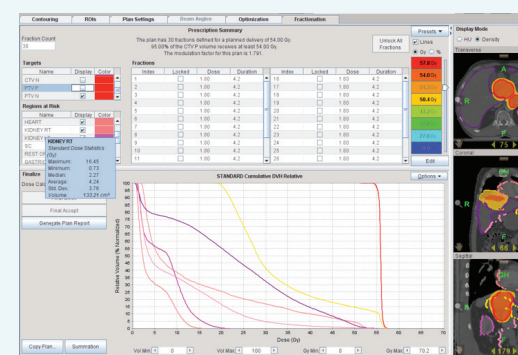
The multimodality team of doctors in HCG hospitals, comprising of surgical oncologists, medical oncologists, radiation oncologists, speech and swallow therapist, psycho-oncologists had a detailed discussion with him and evaluated him to suggest a suitable treatment plan. In view of his cardiac condition and his desire to preserve his tongue, chemotherapy was suggested as an initial treatment plan. The modality named Neo-adjuvant chemotherapy was suggested to him, where if found responsive, he had a high probability of preserving his tongue with the adjunct of radiotherapy. He received the chemotherapy for one and half month with regular monitoring and care to minimize the side effects. After completion he was re-evaluated. The cancer in his tongue had responded to the treatment very well and was found to be substantially reduced in size. Hence, he continued to receive local radiation therapy (brachytherapy) along with another chemotherapy agent. During his treatment he had the support of the speech and swallow therapy team to keep his tongue functions near normal. The psycho-oncology team boosted his morale to go through the procedure. After the completion of his treatment of around 3 months, he was evaluated with PET-CT scan and there was a complete response to the treatment. The tongue ulcer had completely disappeared and his tongue function was near normal. He is presently under follow-up and leads a disease free life.

Chemotherapy has been shown in randomized controlled trials to improve quality of life and extend survival in patients with inoperable cholangiocarcinoma. Chemotherapy agents used to treat cholangiocarcinoma include 5-fluorouracil with leucovorin, gemcitabine as a single agent or gemcitabine plus cisplatin, irinotecan, or capecitabine. A small pilot study suggested possible benefit from the tyrosine kinase inhibitor erlotinib in patients with advanced cholangiocarcinoma. Depending upon the performance status and level of liver dysfunction produced by the tumour, patients undergo treatment with single agent or multi agent chemo regimens. Multi agent chemo regimen has shown to be more beneficial in terms of survival compared to single agents in trial settings.

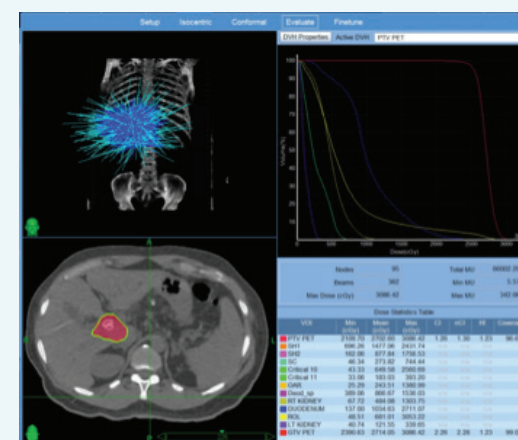
Cholangio carcinoma can be treated with Radiotherapy (with concurrent chemotherapy) as a definitive treatment for resectable tumours has achieved a median survival of up to 35.5 months in trials. It's also employed in adjuvant setting along with chemo to reduce the risk of local recurrences in high risk cases and has produced media survival of up to 24 months. We can employ stereotactic body radiotherapy and fractionated stereotactic radiotherapy to treat low volume local recurrence and retrospective Mayo Clinic data has shown median survival of 14 months in such situations. When treating with radiotherapy, careful consideration needs to be given to the total dose delivered to the tumour and at the same time to maintain the dose to several critical structures close by including, liver, kidneys, stomach, duodenum, lungs and heart to as low as possible. With the availability of advanced radiotherapy techniques such as Tomotherapy and stereotactic body radiotherapy, it's possible to achieve an optimal radiotherapy plan.

We present two cases of Cholangio carcinoma, one of which was treated with up front definitive chemo radiotherapy using Tomotherapy H (case1 ) and other case was re-treatment for low volume locally recurrent disease ( case2) using CyberKnife at HCG Bangalore.

The first case is of a man who was referred by the liver team after being diagnosed with inoperable intrahepatic Cholangio carcinoma. This patient underwent Tomotherapy and received a dose of PTV in fractions with simultaneous integrated boost to the primary and nodes taking the dose higher in fractions. We used PET CT base planning to delineate the radiotherapy volumes. The dose constrains to the critical structures were easily achieved as shown in the dose volume histogram below.



Case 2 is of a patient who was initially treated with definitive radiotherapy for locally advanced Cholangiocarcinoma. He then presented with low volume local recurrence in March 2016. He was treated using CyberKnife delivering 25 Gy in 5 fractions



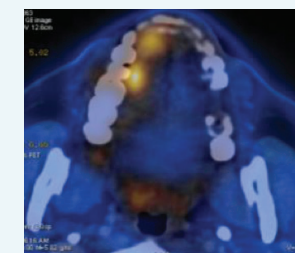
TONGUE CANCER PRIOR TO TREATMENT



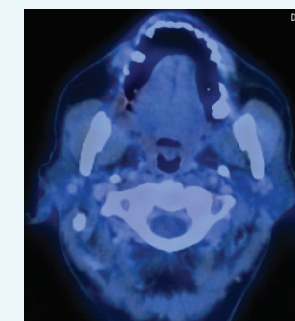
TONGUE CANCER PRIOR TO TREATMENT



PET-CT SCAN OF THE TONGUE CANCER



PET-CT SCAN OF THE TONGUE CANCER





## EVENTS AT

## HCG EXPANDS ITS NATIONAL FOOTPRINT IN VADODARA AND VIZAG

HCG's network of comprehensive cancer centres across India makes advanced cancer care accessible to hundreds of millions of people, who would otherwise have to undergo temporary relocation or travel long distances for treatment at significant physical and emotional cost.

Our comprehensive cancer centres provide all required expertise and technology required for diagnosis and treatment of cancer under one roof. HCG's specialist team of doctors, including – radiation, medical and surgical oncologists, nuclear medicine doctors, radiologists, pathologists and experts – work collaboratively to bring the best in cancer care to each patient.

Continuing with our growing presence in India, it gives us immense pleasure to announce the launch of our two new comprehensive cancer centres in Vadodara and Vizag. The new free-standing cancer centre in Vadodara has 80 beds and is one of the most advanced in terms of technology in the HCG network.

This is HCG's second comprehensive cancer centre in the state of Gujarat which features several advanced technologies such as the TrueBeam Radiotherapy System and Thunderbeat, the minimally invasive surgery system, as well as an integrated cloud hosted oncology IT system.

The Cancer Centre in Visakhapatnam was launched in association with Pinnacle Hospitals. HCG Pinnacle Cancer Centre is located at the APIIC Health City and has 88 beds which will offer cancer care with a multi-disciplinary approach along with a team of experienced doctors. The radiation department is equipped with state-of-the-art technologies and it is the only centre in Andhra Pradesh with a True Beam installation.

At this centre, we would be offering comprehensive cancer care services across diagnosis, interventions and treatment hospital would effectively be raising the bar for cancer care in the region and will follow internationally proven quality protocols and processes.

HCG utilises the most advanced technologies and equipment for driving successful outcomes. We have pioneered introduction of several technologies in the country and are amongst the first to introduce high-intensity flattening filter free mode radiotherapy, stereotactic radiosurgery and robotic radiosurgery, in the treatment of cancer in India.



From L to R Dr. Rajiv Bhatt - Director, HCG Cancer Centre, Vadodara, Dr. B.S Ajaikumar - Chairman - HCG Enterprises Ltd & Dr. Bharat Gadhavi - COO, HCG Cancer Centre, Gujarat.



Lamp Lighting - Dr BS Ajaikumar-Chairman & CEO - HCG Enterprises Ltd along with Mr. Ragam Kishore - Director - Pinnacle Hospitals



HCG Pinnacle Cancer Centre - The only Centre with True Beam Installation in Andhra Pradesh