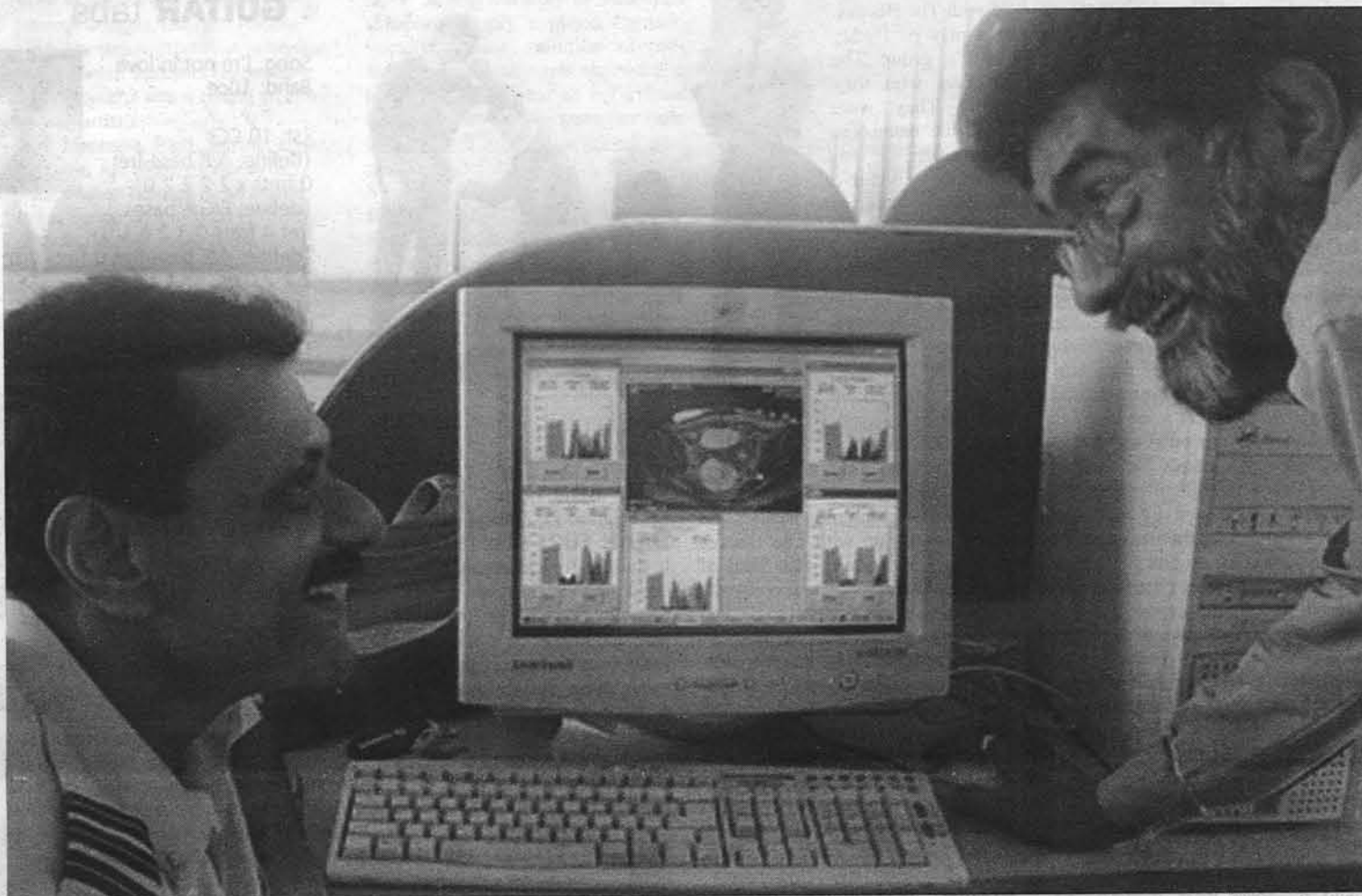


Wing Commander Dr VG Vasishta and Dr Rajah Vijay Kumar, two Bangalorean doctors believe that using magnetic resonance to jam the command and control centre of the human cell can bring a cancer patient back from the brink. If all goes well, they might not just treat cancer and arthritis, but also carpal tunnel syndrome, migraine, epilepsy, immune deficiency disorders and other cellular degenerative diseases. It's an invention that could well land them the Nobel Prize. Zahid H Javali finds out how close they are.

Have these men found a cure for cancer?



L-R: Wing Commander Dr VG Vasishta and Dr Rajah Vijay Kumar.

Photographs: NV Jagadeesh

It was March of 2004 and the end of the line for 43-year-old Ravi Kumar, a manager at an insurance company in Hyderabad, diagnosed with lung cancer. The doctors gave him three weeks to live. Despite the removal of the affected lobe of Kumar's lung, the disease had already spread to the liver and kidneys. He was in great pain and needed morphine every four hours. Morphine, as you know, is only a pain reliever and not a cure. Discharged from the hospital, he was sent home to die. But destiny had other ideas. Someone informed Kumar about the Institute of Aerospace Medicine. "When he was brought in, he was in severe pain and couldn't sit even for a few minutes," says Wing Commander VG Vasishta, professor and head, department of radio diagnosis, Institute of Aerospace Medicine. "He was emaciated; only 60 kgs. Dull and apathetic, his food intake was poor. His sleep and bowel movements were erratic. He also had severe nausea and vomiting." Traditional cancer treatment involves surgery, radiation and chemotherapy. But at the Centre for Advanced Research and Development, Doctor Rajah Vijay Kumar had a completely radical procedure ready and waiting.

It was called the Quantum Nuclear Magnetic Resonance machine (developed by Dr Kumar and his team).

The product of more than seven years of research, the machine looks like an open MRI scanner. A long rectangular table with a horse-shoe like band in the centre. Ravi Kumar had no idea that he'd just been given a life extension.

THE MIRACLE TREATMENT

To explain how it works, here's a little lesson.

A cell is the basic unit of life. A human being has millions of them. Most of the time cells behave the

way they are supposed to and people are healthy. For reasons as yet unknown, sometimes, these cells begin malfunctioning and reproducing abnormally. Then a person becomes sick. With cancer. Traditional treatment (chemo, radiation and surgery) attempts to attack these cancerous cells to destroy them, but most often end up annihilating perfectly normal cells. Which is perhaps why many cancer patients end up getting even sicker as a result of treatment and even die from treatment.

The Quantum Nuclear Magnetic Resonance machine has an entirely different approach. It only targets

abnormal cells, leaving healthy cells intact.

Kumar was given 28 'exposures' ("To 'jam' the control and command centre of the cell," according to Wg Cdr Vasishta,) each lasting an hour. The machine focused high-power, multi-frequency, rotating, quantum electromagnetic resonating beams from 96 'guns' trained precisely on the area to be treated. Ravi Kumar was effectively 'zapped' by 96 invisible rays of hope.

HOW IT WORKS

By continuously attacking the diseased cell, the machine altered the 'cell membrane potential' of Ravi

CONVENTIONAL CANCER TREATMENT

The three main modalities of conventional treatment are: Surgery, chemotherapy and radiation. These quite often do more harm than good and some are limited by the emergence of treatment-resistant cancer cells. Surgery can be quite effective when it comes to the removal of easily-accessible, relatively small, early-stage, localised tumors for instance in the breast, colon, uterus or bladder. Some cases of stomach cancer also respond well to surgery. Chemotherapy is the least valuable and most dangerous of all conventional treatment modes. It uses a variety of highly toxic drugs to kill cancer cells. Perhaps the greatest problem with chemotherapy is that it

seriously weakens the immune system just at a time when it is needed the most. Chemotherapy has been used with some success in the treatment of Hodgkin's disease and certain lymphomas and leukemias. However, chemotherapy is generally not useful in the treatment of the most common cancers like breast, colon, and lung cancer. Dr John Cairns of the Harvard School of Public Health estimates that only a small percentage of the thousands of patients undergoing chemotherapy actually benefit from it. Other cancer researchers are less charitable in their opinion of chemotherapy. Radiation therapy uses high-intensity x-rays to prevent cancer cells from reproducing; in the process it also kills off healthy cells, depresses the immune system, causes very unpleasant side effects, and greatly increases the risk of developing leukemia later on. Dr Cairns believes that "the majority of cancers cannot be cured by radiation because the dose of x-rays required to kill all the cancer cells would also kill the patient."

Kumar's infected cells. Why do this, you ask? Every cell in the body is electrically active (why do you suppose they electrocute you if they want you dead?); some to a greater degree than others. Cells are constantly pumping ions across membranes to maintain an electrical potential difference (equilibrium). That's the membrane potential.

In a normal cell, the potential is between -70 and -90 millivolts. In a cancerous cell, it's between -20 and -30 millivolts. The Quantum Nuclear Magnetic Resonance Machine resonance escalates the membrane potential to -90. This process deranges the cell, which can now never reach -70, the normal level. Now rendered impotent, these once-cancerous cells stop multiplying and actually 'commit suicide,' a process known as 'programmed cell death'.

"The first two days of exposure causes a stun effect and the cell stops cell growth," explains Vasishtha. "The tumour doesn't grow and the death of the cell from the core of the tumour mass extends in a cyclical fashion in a cyclical fashion resulting in a coagulated necrosis (pus) and cell fusion that shows up on an MRI scan and the tumour when operated looks nothing but a boiled egg."

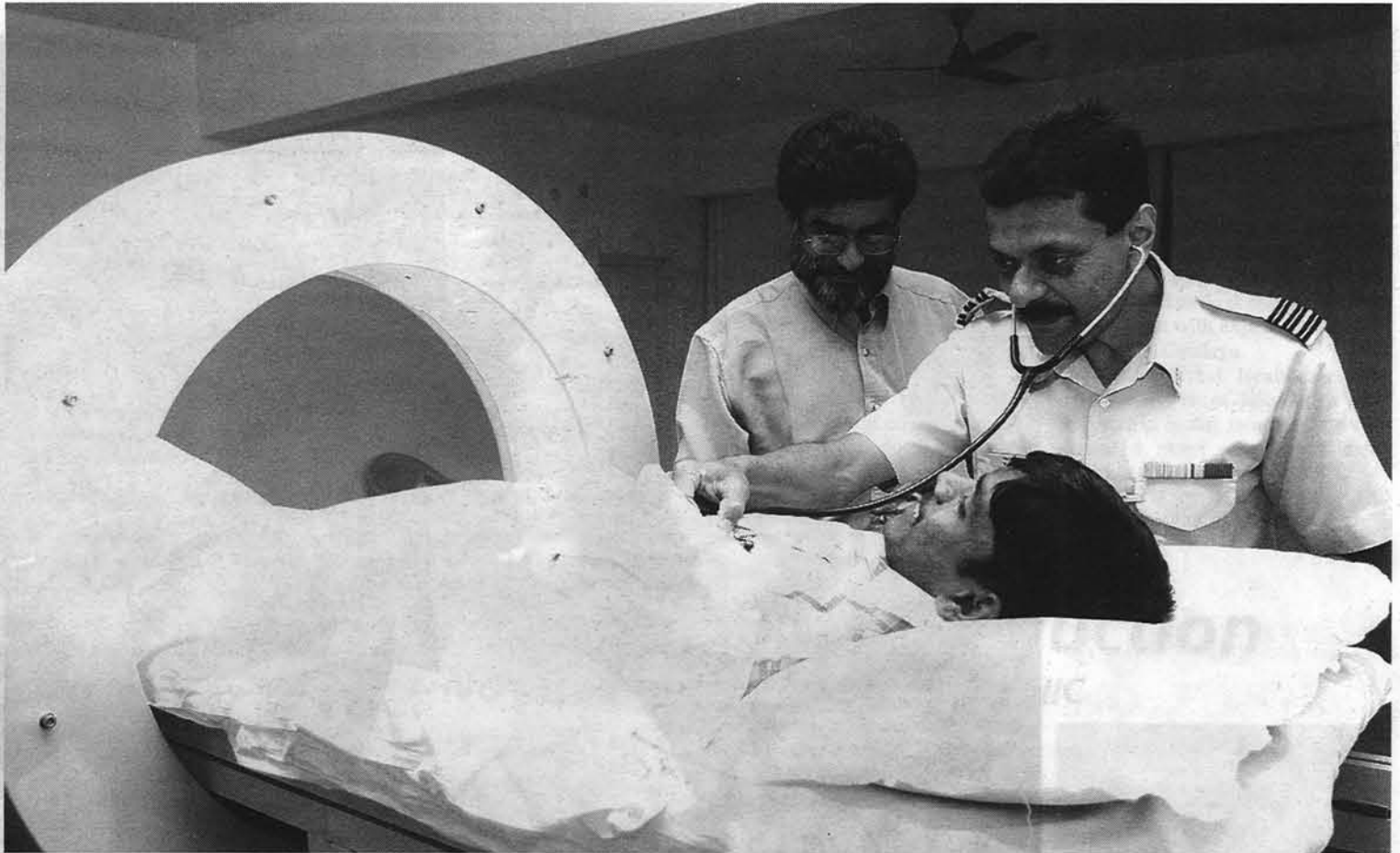
At the time of this writing (November 2004), Ravi Kumar is symptom-free. He is the first cancer patient in the world to be treated in this manner. "By the third exposure, the pain disappeared," says Vasishtha. "By the fifth exposure, he started eating well. By the seventh, he couldn't stop eating. Now he's put on eight kilos."

While Kumar's tumour is dead, the doctors at the Aerospace Institute are still constantly monitoring him to make sure that his condition remains the same. "The mass, the size of a coconut, is lying in his body and is being monitored every month," says Vasishtha. "It's only after five years that we can say for sure if he's been cured of cancer. Because with cancer, you never know."

THE LEARNING CURVE

According to Vasishtha, since this procedure is a radical departure from the traditional and also because the machine itself is a new invention, there are many loose ends to be tightened up, to make treatment as free of side-effects as possible.

Kumar's 28 exposures of intense magnetic resonance without a break, resulted in the death of a large number of cells at one go. This led to infection and inflammation which is never a good thing. Dr Kumar has now reduced the treatment cycle two weeks on two weeks off and then



SCEPTICS & BELIEVERS

Dr SP Somasekar

Consultant, surgical oncology, Manipal Hospital
Since there are no clinical trials, we can't say for sure if this works. But I am given to understand that it works for brain tumours and is definitely a good palliative when other forms like radiation and chemotherapy fail.

Dr K Harish

Professor of surgical oncology, MS Ramaiah Memorial Hospital
This has been tried on one or

two patients. By that, we can't infer anything. Anecdotal reports like these can happen with or without treatment. We require a long trial spread over a period of time across different categories or the same category. I don't think this therapy will have any major say in the future because it doesn't get to the root cause of cancer. I am not saying that this can't happen. But prove it with sufficient numbers and I will be more than happy to accept it.

two weeks on again.

Ravi Kumar has had no serious side effects except for residual scarring that's a minor irritant. "One of his nerves is trapped in the tumour as the mass encases the main vein that carries blood to the heart and cannot be removed," explains Vasishtha. "It's the vein that carries blood to the heart. He feels pain under his ribs." So what are the doctors doing about that? "We will numb the nerve once and for all," says Vasishtha. The tumour however will remain in the body, and the doctors expect that the body will either accept it or discard it (through the body's normal excretion processes) over time.

PATIENTS AND THEIR STORIES AFTER AN ENCOUNTER WITH THE MACHINE

Kumar, the first cancer patient to be treated with this revolutionary machine, told City Reporter that he's back to work and is symptom-free. Other than vitamins, minerals, antioxidants and a mild anti-depressant, he's done with drugs.

31-year-old housewife Rekha, suffering from ovarian cancer, is feeling better after nine exposures. "I can now walk independently," she says with a smile. "In ten days, I have put on a kilo."

A two-year study of the machine

with a sampling of 40 cancer patients began in August 2004 and is expected to be complete by the end of 2006. So far, 28 terminally ill cancer patients have completed the treatment and are being monitored. Some of them in their fourth month of existence, without pain or discomfort.

KEY FEATURES OF THE TREATMENT

- It's a daily outpatient procedure lasting exactly an hour, while treatment is going on.
- There is no pain or discomfort to the patient. It's no different from a CT scan or MRI.
- Since magnetic resonance can be targeted at specific groups of cells, leaving surrounding cells alone, normal cells are not affected.
- Right now, since the Aerospace Institute is conducting clinical trials, the treatment is free. Even when the procedure is commercialised, the costs are expected to be minimal. For one, this is a government-funded enterprise, and for another, there are no con-

sumables.

- So far, the machine appears to be most effective on highly localised cancers and tumours. It has no known side effects.
- Three more machines will be functional by mid-December. These machines will have the ability of multi-focus, that is, upto three independent tumors can be targeted simultaneously.
- The doctors have applied for an international patent that's still pending approval.

THE ROAD AHEAD

The success of the Quantum Magnetic Resonance Machine has many people in the medical fraternity excited. Initial testing has given doctors hope that besides cancer and osteo-arthritis, there are a whole host of uses for this revolutionary procedure: Temporo-mandibular joint disease, tinnitus, migraine, tendonitis, diabetic neuropathy and many other debilitating diseases.

Prevention of Cancer

According to The International Journal of Alternative and Complementary Medicine, cancer can be prevented by a healthy diet of fresh, preferably organically-grown fruits and vegetables. The daily diet should be rich in fiber and low in fat. Protein intake should be moderate and red meat consumption should be limited. Sugar, alcohol, margarine and pickled, smoked, salted, and barbecued foods should be avoided.

Getting daily exercise and avoiding excessive psychological stress are also important preventive measures. It is important to get at least one half hour of unprotected sunlight every day and remember - sunscreens block the formation of vital vitamin D and do not protect against

melanoma or squamous cell carcinoma. Antioxidants like vitamin-C and vitamin-E, beta-carotene, and selenium are all recognized cancer-fighters. They work by neutralizing the free radicals and toxins before they can initiate the gene mutation which eventually leads to cancer. Numerous scientific studies have shown that many people have a low antioxidant intake and that this vastly increases their risk of cancer. Other studies have shown that supplementing with antioxidants can significantly lower the risk of developing many types of cancer. A strong immune system is an essential defense against cancer. A healthy diet will go a long way towards giving you a healthy immune system, but for optimum protection most progressive researchers recommend supplementation with appropriate amounts of vitamins, minerals, and especially antioxidants.

