

## Fortis Bengaluru performs South India's first HIVEC procedure

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### Hyperthermic Intra-Vesical Chemotherapy (HIVEC) reduces the chance of cancer recurrences



A team of doctors at Fortis Hospitals, Bengaluru successfully performed South India's first HIVEC (Hyperthermic Intra-Vesical Chemotherapy) technique on a 58-year-old male suffering from bladder cancer. The procedure was performed by a team of experts led by Dr Mohan Keshavamurthy, Director Urology, Uro-oncology, Andrology, Transplant & Robotic Surgery, Fortis Hospitals, Bengaluru.

HIVEC technology comes as a gold standard for patients of bladder cancer who are Bacillus Calmette Guerin (BCG) resistant. This procedure is a safe and effective option for high-grade cancer bladder who have recurrence despite intravesical BCG therapy. It is also useful for patients with muscle-invasive bladder cancer who want to preserve their bladder and avoid radical cystectomy. The patient underwent three sessions of HIVEC over a period of 20 days.

"Bladder cancer is one of the common urological cancers and its incidence seems to be increasing. In high grade or muscle-invasive cancer bladder, removal of the bladder is the treatment of choice that has a social and psychological impact on the patient. Also, there is a significant probability of cancer recurrences for patients with bladder cancer in case of BCG therapy. With HIVEC, the chances of recurrences of the cancer becomes minimal along with good success rates," said Dr Mohan Keshavamurthy- Director Urology, Uro-oncology, Andrology, Transplant & Robotic Surgery, Fortis Hospitals, Bengaluru.

HIVEC treatment requires the use of a small machine that is called The COMBAT BRS system. This system is connected to the patient's catheter via a closed circuit of small tubes. The system warms the chemotherapy drug before it then enters the bladder through a special catheter. The chemotherapy drug is heated to a temperature of 43°C which is a similar temperature to that of a warm bath. It is then gently re-circulated around the bladder and back through the system up to 4 times a minute. This is to make sure that the whole area inside the bladder is kept at a constant target temperature of 43°C and that the chemotherapy drug is well distributed so the whole bladder is treated.

Recent evidence has shown that heating the chemotherapy drug when it is inside your bladder can help to increase its ability to kill cancer cells. This is because the heat allows the chemotherapy drug to be more easily absorbed into the bladder lining, allowing for deeper penetration into the bladder wall. The heat generated inside the bladder can also help to directly kill any remaining cancer cells, as well as increases the body's natural immune response which will also target the cancer cells and kill them.

Currently, high-grade bladder cancer in India is treated with BCG intravesical immunotherapy. However, a large proportion of patients experience a recurrence. If BCG becomes unresponsive, then a cystectomy (removal of the bladder) has to be performed. Some patients may not be considered for this option due to side effects. Approximately 50% of patients with bladder cancer develop recurrence after BCG therapy. HIVEC helps in bladder preservation strategy for such patients.