

CASE STUDY: HOW THIS AHMEDABAD-BASED CANCER CENTER IS USING ROBOTIC SYSTEM FOR MINIMALLY INVASIVE SURGERIES

SEJUTI DAS - 2 WEEKS AGO



A dedicated, private and comprehensive cancer center, 'HCG – The Specialist in Cancer Care' has been designed to address the cancer care needs of Gujarat and adjoining states of Rajasthan and Madhya Pradesh. With services like surgical, radiation and medical oncology all under one roof with a full range of diagnostic, pathology, radiology and nuclear medicine departments, the hospital claims to be a 'one-stop solution' for comprehensive cancer care.

The center was established to provide high quality and result-oriented cancer care treatment by adopting global innovations. HCG – The Specialist in Cancer Care, with 24 centers across India, currently claims to be the largest cancer care provider in the country.

The Challenges

Out of all the established hospitals of the HCG group, HCG Cancer Centre in Ahmedabad, Gujarat is one of the main cancer hospitals. And therefore, most of the complex cases are usually referred here – not only from Gujarat, but also from other parts of India and abroad. Being the tertiary care hospital of the state, HCG's highly qualified, trained and experienced oncologists have to deal with high-risk cancer patients daily.

The hospital, from the last 25 years, has been focused on offering a sub-speciality approach and became the first private cancer center in Gujarat. The hospital boasts of a strong surgeon team to provide the best cancer outcomes, where the primary focus has always been on complete removal of cancer for better patient survival and reduced recurrence.

To achieve these outcomes, the hospital was earlier dependent on open surgery. However, open surgeries always came with some challenges such as a large scar, delayed recovery, more blood loss etc. The hospital quickly realized the transformation and was looking to adopt new and advanced technologies to provide better cancer outcomes with benefits of minimally invasive surgeries.

Deployment Of Solution & Benefits

Over the last few years, the healthcare industry has witnessed an increasing acceptance of robotic-assisted surgeries in the world, especially for complex operations like radical prostatectomy, radical cystectomy, partial nephrectomy, rectal resection surgeries, thoracic surgeries and oncogynaecological procedures. And to reach human organs located in remote areas of the patient's body, and shorten the surgery time, shorter hospital stay and to reduce the side effects of the treatment, HCG Cancer Centre deployed Gujarat's first 4th Generation da Vinci Xi Robotic System. HCG Cancer Centre started using high-end computerized robotic systems to perform surgical procedures, whether it be urology surgeries, gynaecological procedures, general surgery, head and neck surgeries, or for cancer treatment.

Robotic-assisted surgery was deployed in HCG Cancer Centre to offer the best technology for better patient outcomes and aid surgeons to perform complicated surgeries. It not only allows the surgeons to perform complex surgical procedures with more precision but also provides them with enough flexibility and control than traditional techniques, such as open surgery and laparoscopy.

The doctors of HCG Cancer Centre were initially sceptical about the value addition of robotic approach for prostatectomies, "however, as we started performing robotic prostatectomies, we started to notice the ease of performing the surgeries was tremendous," said Dr Hemang Baxi, the

head of uro-oncology & robotic-assisted surgery department. Alongside “the ergonomics and the magnification provided by the robotic technology have translated into the better precision of surgical steps,” added Dr Baxi.



Dr Hemang Baxi Head of Uro Oncology & Robotic-assisted Surgery Department with the da Vinci robotic system

According to Dr Baxi, the significant advantages in terms of function recovery were the earlier return of urinary continence, which is significantly shorter diaper time, along with the significantly reduced incidence of bladder neck contractures. Post-deployment of the robotic system, Baxi also noticed that the blood loss after the surgical procedures had decreased considerably, and the hospital stay along with the overall patient recovery was much shorter.

Dr Baxi also observed that because of precise vesicourethral anastomosis in the last step of radical prostatectomy, the incidence of anastomotic strictures was almost negligible. "It is also significant that, out of more than 200+ robotic prostatectomies performed at our center, not a single patient has an anastomotic urinary leak," added Dr Baxi.

Robotic-assisted surgery also helped the hospital in precise tumour excision in required cases, by providing better magnification and better ergonomics leading to faster suturing as compared to laparoscopy.

"There are other significant advantages of robotic technology observed in bladder cancer patients undergoing urinary bladder issues," said Dr Baxi. "These patients tend to have a higher complication rate which can be minimised by using intracorporeal robotic techniques leading to lesser incidence of ureteric stricture, lesser fluid loss and electrolyte disturbances."

Alongside, Dr Jagdish Kothari, the head surgical oncologist and robotic surgeon at HCG, a firm believer of open surgery for complete cancer removal also decided to explore minimally invasive surgeries for GI cancers. He said that once he started looking at the literature and came across many successful studies from eminent hospitals across the world, his perspective changed and started using it to have a better outcome for patients. Today at HCG Cancer Center, Ahmedabad, more than 80% surgeries for cancer of Oesophagus, Stomach, Colon & Rectum are done by Minimally Invasive technique.

The da Vinci robotic system has been designed to enable complex surgeries using a minimally invasive approach. The surgical system includes an ergonomic surgeon console and interactive arms with a high-performance vision system and wristed instrumentation. The console gives the surgeon a high-definition, magnified, 3-D view of the surgical site, and the surgeon gets to control the arms while seated at the computer console near the operating table.

Explaining further, Mandeep Singh Kumar, the vice president and country general manager of Intuitive India, said, "By providing surgeons with superior visualization, enhanced dexterity, greater precision and ergonomic comfort, da Vinci robotic-assisted surgical systems made it possible for them to perform minimally invasive procedures involving complex dissection or reconstruction."

"For patients, da Vinci surgery is offering potential benefits such as smaller incisions, less blood loss, fewer complications, faster recovery with shorter hospital stays and fewer readmissions," said Kumar.

Wrapping Up

According to Kumar, a desire to offer a minimally invasive option to patients have driven the demand for robotic-assisted surgery in India. The benefits of robotic-assisted minimally invasive surgery not only include fewer complications or lesser pain for patients but also faster recovery, which is essential in getting the patients back to their lives faster.

These benefits consecutively can create a profitable framework for hospitals in India. Faster recovery of patients means shorter hospital stays and lesser readmissions, which will, in turn, free up the limited supply of beds in Indian hospitals and help in taking the pressure off the overall healthcare system.
