American Oncology Institute (AOI), the flagship international center of US-based Cancer Treatment Services International (CTSI), operates a chain of cancer hospitals in multiple cities across India. Co-founded in 2006 by a group of physicians and industry experts with decades of experience in the development, operation and networking of private and academic medical practices, CTSI brings university-level medical care to underserved areas worldwide.

AOI was started with an aim to close the gap between standards of cancer care in India and the US through transporting the rich lineage of its parent organization in offering Precision Cancer Care. AOI provides comprehensive cancer management that is powered by clinical excellence, world-class technology as well as international pathways and protocols, providing never before quality in cancer care across India and South Asia.

Clinical Excellence
Cancer treatment at AOI is done by a multi-disciplinary team of doctors who are competent and trained to treat every cancer type comprising Radiation Oncology, Medical Oncology, and Surgical Oncology. In addition to that, AOI operates a comprehensive Hemato Oncology department including Pediatric Hemato Oncology. AOI also has trained experts managing sub-specialties such as Orthopedic Oncology and Head & Neck Oncology. The team of doctors is complemented by an equally competent team of well-trained nurses, medical physicists and other support staff.

Technology
American Oncology Institute is equipped with the most advanced technology available today in India in cancer management. These include TrueBeam STx, Calypso, Rapid Arc, IMRT, IGRT, etc. AOI is also equipped with an advanced diagnostic set-up that includes MRI, PET-CT and various other modern diagnostic devices.

Clinical Pathways & Protocols
Besides having the latest technology for treating cancer, we have created an environment where each treatment is planned based on international protocols that are administered through decision support tools enabled by technology. At AOI, we also have an International Tumor Board that is conducted weekly during which the doctors from our international centers also join their Indian counterparts in diagnosis as well as treatment planning for specific cases.
At AOI, we received a 7-year-old girl from Hyderabad with a history of headache, vomiting and imbalanced gait of one month duration. Brain CT scan showed evidence of mildly enhancing heterogeneous lobulated hyperdense mass lesion measuring 3.6 x 3.0 x 3.2 cm in the region of fourth ventricle. MRI of brain showed 3.5 x 3.5 x 4.3 cm mixed heterogeneous signal intensity non-homogeneously enhancing lesion with intraventricular haemorrhages, cystic foci, mild perilesional oedema in the cerebellum in midline posterior to fourth ventricle, causing proximal mild hydrocephalus suggestive of medulloblastoma. MRI of the spine showed multiple tiny focal areas of enhancement of arachnoid over the entire spinal cord, more in the lower dorsal region favouring metastasis.

Patient underwent sub-occipital craniotomy, V-P shunt placement and near total excision of the posterior fossa lesion at American Oncology Institute. Post-operative CT brain showed post-surgical changes in the posterior fossa, scattered minimal bleed in the third ventricle, ventricular shunt catheter in the left occipital horn without evident hydrocephalus. Post-operative MRI showed ill-defined 2.5 x 2.0 x 2.7 cm heterogeneously enhancing midline vermian mass lesion with bleed/intraventricular extension with speculated margins and post-surgical changes suggestive of medulloblastoma residual component. Histopathology and immunohistochemistry (IHC) report revealed evidence of Medulloblastoma. Patient was staged as Chang Stage T2 M3 and high risk category.

The model
We, at American Oncology Institute, focus on emerging areas like effectively monitoring iron levels, assessing organ damage and help initiate early interventions to limit lifetime damage. Our haematology team assessed the patient to identify the issues of the particular child, counselled the family and planned investigations. Post investigations, a multi-disciplinary team reviewed the patient to decide on a treatment plan. We initiated the next stage of interventions and treatments which would halt further organ damage. More than 150 patients have been part of this program so far at American Oncology Institute.

Our comprehensive approach to diagnosis as well as treatment planning makes it the first of its kind in South India as well as in the country. We hope that this will become a role model for many more of such services in our country benefiting many families.

SUCCESSFUL TREATMENT OF MEDULLOBLASTOMA

MULTI-DISCIPLINARY CARE MODEL FOR THALASSEMIAS

Thalassemia is the most common genetic disorder. Nearly 4 million Indians are Thalassemia carriers. Around 25,000 babies are born in India every year with Thalassemia. It usually manifests around 4-6 months of age with severe anemia. After confirmation of diagnosis by Haemoglobin electrophoresis and DNA mutation analysis, it requires lifelong blood transfusions for survival.

However, multiple transfusions lead to iron accumulation into important organs including liver, heart, pancreas and endocrine glands causing lethal affects. To prevent permanent damage in these organs, patients need to be started on iron chelator medicines early. Suspects need comprehensive checkup at least once a year to detect problems early. Investigations may include various blood test, echocardiogram, and MRI imaging of heart and liver.

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In May 2015, a 55-year-old lady reported a left-sided breast lump with pain. She was evaluated and detected to have a 5x7 cm lump with skin involvement and same side axillary nodes. A biopsy revealed infiltrating duct cell carcinoma with ER and HER-2 positivity. Staging PET-CT was suggestive of primary breast lesion with bone metastases.

Since she was not symptomatic for bone lesions, she was started on anti Her-2 therapy with Trastuzumab and anti-hormonal agent. Chemotherapy was not administered. After 3 months of therapy, there was excellent response and she was continued on the same treatment.

It has been 18 months now and her recent scans show no evidence of any progression. She is doing well and is asymptomatic.

This case highlights the importance of withholding chemotherapy in metastatic breast cancer in ER+ and Her-2+ patients until absolutely necessary. This minimizes toxicities of chemotherapy and allows use of chemotherapy at a later stage when necessary.

Decision regarding the use of chemo in metastatic breast cancers depends on if the patient is in visceral crisis or not. Involvement of lung/liver or other organs with symptoms arising from same qualify for use of chemotherapy. In the absence of these factors, chemo can be safely withheld.

With the advent of Trastuzumab, targeting Her-2 excellent responses and longer survivals are seen in these types of patients. Monitoring Trastuzumab requires evaluation of cardiac function every 3 -4 months. Addition of anti-hormonal therapy adds to the responses and clinical benefit in patients who are ER positive as highlighted in this case report.

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A 47-year-old female patient from Kadapa was suffering from an advanced cancer of the large intestine referred as peritoneal malignancy. A team of surgical and medical oncologists at American Oncology Institute performed advanced Cytoreductive surgery combined with Hyperthermic Intraperitoneal Chemotherapy (CS/HIPEC).

This surgery took more than 12 hours, and the affected areas were cleared. The patient is recovering fast and we are expecting a better result than any other conventional therapies.

CS/HIPEC is an advanced complex procedure which is proven to have significant benefit in terms of survival (40 - 50%), with acceptable morbidity and acceptable mortality for select patients with malignancy in the abdominal area and cases of recurrence. HIPEC is a futuristic approach to various malignancies like recurrent cases of ovarian cancer, colorectal cancers, rare forms of cancer in the abdomen area like PMP/ mesothelioma etc. The procedure usually takes 8 - 18 hours depending on the patient’s condition and helps in treating the malignancy in abdominal areas including those that have had failed standard chemotherapy and/or prior surgeries.
At AOI, most of the cases are reviewed by an International Tumor Board, a consortium of distinguished experts from different medical specialties from across the globe. They meet once a week through video conferencing to review the medical condition of the patient and recommend treatment options for the cancer type as per NCCN (National Comprehensive Cancer Network) guidelines. The Board collaborates and discusses cases at length to ensure that the most precise treatment is suggested in case of every patient.