

DCF Newsletter

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Dear Friends,

Our passion and commitment to provide evidence based clinical care by credentialed staff, as per global standards, has helped us to be the First and only NABH accredited cancer hospital of India since 2008. We are all set for the surveillance audit by the NABH team in September, 2011.

All cadres of staff work towards patient's safety and high quality of care; measuring clinical and managerial outcome and monitor patient satisfaction. Achieving Continuous Quality Improvement (CQI) is a very expensive exercise which involves changing and improving infrastructure, adding newer technologies, skills development of staff, implementation of International Standards of quality care and best treatment out comes.

Our PET CT with High Definition Technology has been ordered and will be the first such technology of North India for molecular imaging. It is a great prognostic tool. Our labs

just completed NABL surveillance assessment and have been recommended for continuation of NABL Accreditation. Our first batch of Nurses have successfully completed one year Post Basic Diploma in Oncology Nursing. Second Batch will join in September 2011.

To make cancer treatment affordable for weaker sections of the society, we have started a special Indigent Patient Fund. Two Per cent of the hospital billing is transferred to this fund for the free treatment of below poverty line patients. People with family income of upto Rs. 10,000/- are provided totally free services but pay for 50% of drugs and disposables. If you have any needy person, do refer to us.

Dr. S. Khanna
Executive Director

RECURRENT ADRENOCORTICAL CARCINOMA: A CASE REPORT

Adrenocortical carcinoma is a rare tumor afflicting only 1-2 persons per one million population. It usually occurs in adults and the median age at diagnosis is 44 years. The cause is unknown. Although potentially curable at early stages, only 30% of these malignancies are confined to the adrenal gland at the time of diagnosis. Because these tumors tend to be found years after they began growing, they have the opportunity to invade nearby organs, spread to distant organs (metastasize) and cause numerous changes in the body because of the excess hormones they produce.

Tumors of the adrenal gland are classified as either functioning or nonfunctioning:

- A functioning adrenocortical tumor over produces certain hormones. It may trigger symptoms.
- A nonfunctioning adrenocortical tumor doesn't secrete hormones. It may not cause symptoms early on.

The symptoms associated with functioning adrenocortical tumors vary. They depend on which hormones are overproduced and on the patient's age.

Our patient Mr. IQS is a young male aged 37 yrs, is known case of recurrent non functioning (nonsecretory) malignant right adrenocortical carcinoma with adhesion to liver and IVC. He had undergone debulking surgery of right adrenal mass in some hospital on 21/2/2011. Per-operative finding was large 12 x 10 x 15 cm tumor in suprarenal region involving sub hepatic IVC, inferior surface of right lobe of the liver. Tumor was adherent to right kidney, right renal vein and IVC. Approximately 75% of tumor was removed leaving behind a cuff of tumor adherent to IVC and liver.

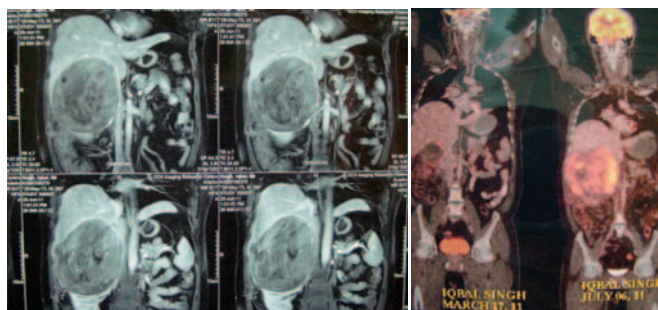
Post operatively he was evaluated by leading medical oncologists at various hospitals and advised for T. Temozolamide 250 mg for 5 days every month for 6 months. Even this was started after 15/5/2011. Meanwhile he had recurrence of disease with large right adrenal mass. He was evaluated at several hospitals and advised to undergo palliative chemotherapy as they found it as an inoperable disease.

Patient came to Dharamshila Hospital on 31/7/2011. His recent MRI dated 28/6/2011 and whole body PET CT Scan dated 6/7/2011 showed

DHARAMSHILA HOSPITAL AND RESEARCH CENTRE

Dharamshila Marg, Vasundhara Enclave, Delhi - 110 096

large heterogeneous mass in right suprarenal region measuring 17.1x17.1x14 cm. Mass was displacing the right lobe of liver with adhesion to its inferior surface. Right kidney was also displaced with loss of fat plane between them. IVC was also displaced antero medially with mass appearing adherent to the IVC just below the caudate lobe. No intra luminal filling defects in IVC. There was no free fluid or other metastasis. There was no distant or nodal metastasis on PET CT.



MRI right adrenal mass

Whole body PET CT scan

Slide reviewed in our hospital also confirmed the diagnosis of adrenocortical tumor with necrosis. Case was discussed in tumor board and planned for surgery if resectable followed by adjuvant treatment. With limited benefits other modalities like chemotherapy and radiotherapy, other than surgery, patient's relatives and patient were given the options of surgery versus chemotherapy with mitotane. They decided to go ahead with surgery despite of explained high risk.

Patient then underwent exploratory laparotomy with resection of large right adrenal tumor with right nephrectomy done under general anesthesia on 13/7/2011. Perop finding – large necrotic tumor measuring approximately 25x20 cms arising from right adrenal area pushing liver up with adhesion to second part of duodenum, IVC, right kidney and hepatic flexure of colon. It was also infiltrating the retroperitoneum. It was separated from duodenum and colon. While separating from inferior surface of liver, the tumor capsule was breached. Approximately 2.5 kg of necrotic tumor mass was removed. Remaining capsule of the tumor started bleeding profusely. It was controlled by abdominal packing. IVC and aorta were exposed. Right renal vessels isolated, ligated and cut. The remaining tumor with residual right adrenal gland and right kidney were resected leaving behind a small portion of part of capsule adherent to IVC. Hemostasis could not be achieved despite of all measures as it was diffuse bleeding. Hence abdominal packing was done with some hemostasis. Abdomen was closed with no. 32 drain in situ.

Intra operatively patient received 29 units of packed red cells (PRC), 18 units of fresh frozen plasma (FFP) and 6 units of random donor platelets (RDP) along with other supportive measures. Gradually patient's condition improved in ICU. He was weaned off ventilator on second post operative day. Removal of abdominal packs and clot evacuation with peritoneal lavage done under GA on 16/07/2011.

He received several blood units and other blood components in the post operative period (43 PRC, 67 FFP, 10 RDP and 7 single donor platelets (SDP) in total). Gradually over the period his condition improved with good supportive care. He was shifted to HDU on 20/07/2011. Then he was shifted to ward on 22/07/2011. Later he was discharged on 29/07/2011 in a satisfactory condition. Now patient is doing well on follow up visit. He is planned for adjuvant radiotherapy to tumor bed and IV chemotherapy along with mitotane. Three consultant surgical oncologists, **Dr. Niranjan Naik, Dr. Mudit Agrawal and Dr. Vinod Tikku** performed the surgery. Good support of anaesthesia team (Headed by HOD of Anaesthesia, Dr. Neha Agrawal), blood bank facility (Headed by HOD of Pathology, Dr. R. Dawar) and entire OT and ICU team contributed to the successful outcome of the patient.

Adrenal carcinoma may be curable if treated at an early stage. Radical surgical excision is the treatment of choice for cancers

which have not spread to other organs. This remains the only method by which long-term cure may be achieved. Approximately 40% of all patients who undergo a radical resection of this cancer will be alive 5 years later. In a retrospective, nonrandomized comparison of patients with first recurrence of adrenocortical cancer, 18 patients were treated with chemotherapy (primarily mitotane) and 15 patients were treated with surgical resection plus similar chemotherapy. Surgical resection of recurrent adrenocortical cancer was often extensive, with morbidity in 20% of patients and no mortality.

Mitotane therapy was ineffective at controlling tumor growth. Median survival from the time of diagnosis for all patients was only 23 months and no patient was cured. Disease-free interval greater than 12 months was associated with prolonged survival, but it only occurred in six patients (18%), with a similar frequency in both treatment groups. Surgical resection of recurrent disease was associated with prolonged survival from the time of first recurrence. The potential benefit of this resection was evident in the 5 patients (33%) who were able to live greater than 5 years from the time of first recurrence with improvement in symptoms and signs of hypercortisolism. Although no patient with recurrent adrenal cancer could be cured, resection of recurrent disease was associated with a slight prolongation of survival and good palliation of Cushing's syndrome.

Dr. B. Niranjan Naik

MS - General Surgery (AIIMS), Onco Surgery (AIIMS)
Consultant - Surgical Oncology

STUDER'S ILEAL ORTHOTOPIC NEOBLADDER RECONSTRUCTION: A GOOD RECONSTRUCTIVE OPTION AFTER RADICAL CYSTOPROSTATECTOMY

The carcinoma of urinary bladder is on rise due to increased consumption of tobacco. The common early symptom is hematuria with or without dysuria. The patient is investigated by USG abdomen and pelvis. Cystoscopy is done if any suspicious lesion is seen. Multiple superficial and deep biopsies are taken. After diagnosis, metastatic workup is done by CXR, CT scan of whole abdomen and bone scan. If biopsy shows superficial bladder cancer it is treated by TURBT (Transurethral resection of bladder tumor) + intravesical BCG therapy, if it is muscle invasive then Radical Cystoprostatectomy is the treatment of choice. There are various urinary diversion procedures available, the most commonly performed is ileal conduit. The only drawback is that patient has to wear urostomy bag whole life. The other option is reconstruct a neobladder and anastomose it to the urethra and patient can void like a normal person.

CASE STUDY

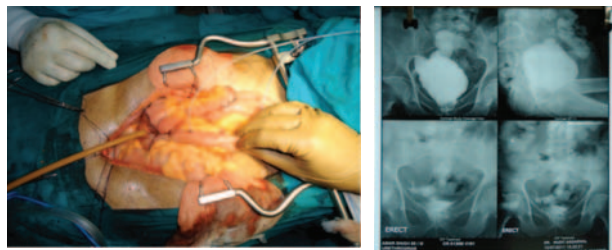
A 55 years old year male presented with on & off episodes of hematuria since 6 months, his cystoscopy revealed lesion in the left lateral wall of bladder. Biopsy showed transitional cell carcinoma with muscle invasiveness. CT scan showed lesion in the left lateral wall with minimal extravesical spread and no pelvic lymphadenopathy. The metastatic workup (bone scan, chest x ray) was negative for any spread. The patient was planned for Radical cystoprostatectomy and ileal neobladder reconstruction (Studer type). The patient underwent Radical cystoprostatectomy and ileal neobladder reconstruction Studer type.

SURGICAL TECHNIQUE

Initially the most dependent part of terminal ileum was marked by a marker suture at least 45 cm proximal and 60 cm from ileocaecal junction so as to preserve at least 25 cm of ileum at ileocaecal junction. Twenty centimetres of ileum distal and 40 cm of ileum proximal to marker suture are chosen to harvest the 60 cm segment of ileum. Distal 40 cm of segment was used to construct the neobladder and proximal 20 cm was as afferent limb. Distal 40 cm ileum was cut at the antimesenteric border for detubularization.

The medial borders of incision was closed in longitudinal fashion with 3-0 vicryl continuous suture and 3-0 interrupted vicryl sutures in single layer to form the posterior wall of neobladder. The longitudinal suture lines are brought down to the distal end of anterior suture line, thus folding the bladder in HeinekeMikulicz fashion and giving it a spherical shape. After transposition of the left ureter to the right side, the ureters were spatulated and anastomosed by interrupted 3-0 vicryl sutures in an end to side fashion to proximal non-detubularized segment of ileum. Ureters were stented with 10 Fr feeding tube, which was negotiated across ureteroileal anastomosis and brought out of the bladder through non-detubularized afferent limb towards the mesenteric side. As depicted in the figure below.

The anterior wall was closed transversely with Vicryl 3-0 interrupted sutures. Finally, the neobladder was anastomosed to the prostatic urethra with 6 interrupted 2-0 monocryl sutures on Uronedle 22 Fr Foley catheter.



Ileal Neobladder

Postop Cystogram

The ureteric splints were brought out of the anterior abdominal wall connected to urobag for urine collection. Postoperative minimal traction was applied to the foley's catheter. The neobladder was flushed with 500 ml normal saline thrice daily through the Foley catheter and mucus clots were aspirated. The post-operative (day 10) cystogram showed no evidence of leakage and foley's catheter was removed. Patient complained of overflow incontinence which had improved with minimal usage of 1 of 2 pads at night time day. The patient was taught perineal exercises and pelvic relaxation. The patient was advised to consume plenty of fluid and sodamint tablet was prescribed. On follow up patient presented with retention of urine for which foley's catheterization was done at local place, When he visited us we got the cystogram done revealing no leakage from the neobladder and foley's catheter was removed and patient was taught self catheterization if he has any obstructive features. His renal parameters were within normal limits.

After Radical Cystoprostatectomy urine from kidney needs to be diverted out of the body (urinary diversion). The urinary diversion can be broadly classified as non continent where patient has no control and is to be collected in the pouch outside the body or continent type where it gets stored inside the body which needs to be emptied at timely intervals.

NONCONTINENT URINARY DIVERSION

Diversion into a noncontinent conduit is considered less technically demanding and is associated with the minimum postoperative complications. Therefore, this technique is the criterion standard. Noncontinent urinary diversion is performed by either directly anatomizing the ureters to the anterior body wall (i.e., cutaneous ureterostomy) or using a segment of bowel to anastomose in a similar manner to the anterior wall for ostomy bag drainage.

The bowels most commonly used for noncontinent conduit diversion are 15-25 cm of ileum (see the image below), colon, and, least often, jejunum bowel segments. These segments usually lend themselves to easy mobilization on a vascular pedicle, which allows for ureter anastomosis at the proximal end and stoma formation on the abdominal wall (most often in the right lower quadrant) at the distal end.

CONTINENT URINARY DIVERSION

The most commonly used bowel segments for continent urinary diversion are either ileum (as depicted below) or a combination of

terminal ileum and ascending colon. Ensuring that all continent diversions store and empty urine at low pressures is paramount. High storage and voiding pressures ultimately cause high-pressure reflux nephropathy and may result in renal failure. Therefore, all bowel segments used for continent diversion, with the exception of their use in a ureterosigmoidostomy procedure, are initially detubularized. The bowel segments are then refashioned in a more spherical shape, which increases capacity and decreases luminal pressure by a magnitude of 3 - to 4 - times lower than the original segmental pressure.

CONTINENT URINARY DIVERSION USING ILEUM

Orthotopic diversion (ortho meaning correct, topic meaning of a place) is a term that describes the reconstructed pouch anastomosed to the native urethra. Neobladder is a term used synonymously with orthotopic diversion. The continence mechanism in an orthotopic diversion is the native urethral rhabdosphincter. Continent diversion may be further categorized into 3 types: (1) orthotopic or neobladder diversion, (2) continent catheterizable diversion, and (3) ureterosigmoidostomy.

Patients with a continent catheterizable stoma have a one-way valve mechanism fashioned at the insertion site that leads into the urinary storage system. The limb allows for catheterization through a small stoma on the abdominal wall, enabling the system to empty; however, this limb remains continent during the storage phase between catheterizations. Mechanisms for continence of the efferent limb include a flap valve, nipple valve, pressure equilibration, or combinations of thereof. Ureterosigmoidostomy consists of anastomosing the ureters to the sigmoid colon in a nonrefluxing manner. This diversion method relies on the anal sphincter for continence. For reasons listed in Complications, ureterosigmoidostomy is becoming a less popular method of continent diversion.

COMPLICATIONS ASSOCIATED WITH URINARY DIVERSION

Patients with ileal conduits, colon conduits, or continent reservoirs tend to present with hyperchloremic metabolic acidosis with normal or low potassium levels.

Patients with urinary retention usually present with abdominal pain and distension. This condition is a medical emergency, and drainage of the reservoir is indicated. Haupt et al reported on a patient with an orthotopic bladder who produced enough mucous to result in bladder outlet obstruction and reservoir rupture.

In patients who have undergone ileal resection for diversion and present with megaloblastic anemia, vitamin B-12 deficiency should be considered.

Patients with continent reservoirs are at risk for secretory and/or osmotic diarrhea, depending on the length of ileum used and whether the ileocecal valve was resected for construction of the urinary pouch. Diarrhea and the metabolic abnormalities discussed above result in a presentation that consists primarily of dehydration.

CONTRAINDICATIONS

Patients with poor renal function, severe metabolic abnormalities, and significant proteinuria should not undergo diversion with continent reservoirs. Additionally, patients who lack motivation or are unable to catheterize a continent reservoir should not undergo diversion in this manner.

To summarise the best way to rehabilitate the patient after radical cystectomy is orthotopic neobladder reconstruction as it saves the patient from social stigma of urostomy bag which might leak any time provided the patient is properly selected and motivated.

Dr. Mudit Agarwal
 M.B.B.S., M.S. (General Surgery)
 M.Ch. (Surgical Oncology)
 M.R.C.S. – Royal College of
 Surgeons of Edinburgh (UK)
 Consultant - Surgical Oncology

Dr. Vinod Tikku
 MS (General Surgery)
 Diploma in Surgery of Digestive
 Tract Cancer, Tokyo (Japan)
 Consultant – Surgical Oncology

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DHARAMSHILA HOSPITAL AND RESEARCH CENTRE

(A unit of Dharamshila Cancer Foundation And Research Centre)

Dharamshila Marg, Vasundhara Enclave, Delhi - 110 096 T +91-11-43066666, 22618675

F +91-11-22617770 E contact@dhrc.in, W www.dhrc.in

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