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MED REVIEW

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Laparoscopic Colorectal Surgery: New Paradigm towards Excellence

Total Hip Replacement in Adult Dysplastic Hip

Reduction Mammoplasty Procedure

Critical Congenital Heart Disease in a New Born

Med Review published by Jaypee Hospital, Noida for Medical Professionals.

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Critical Congenital Heart Disease in a New Born



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Introduction

About 10% neonatal deaths in otherwise healthy neonates is attributed to the critical congenital heart diseases. Transposition of great arteries or ventricular-arterial discordance is one of the commonest CCHD amongst the cyanotic babies with a prevalence rate of 0.2/1000 live birth. The babies born with this disorder have parallel circulation instead of desired 'circulation in series' where deoxygenated blood reaches in body only after passing through pulmonary vasculature after getting replenished with oxygen. It happens so because of switching of great vessels and letting pulmonary artery connect to left ventricle while aorta connecting to the right ventricle. Henceforth, body gets oxygen deprived blood while pulmonary venous blood renters in lungs via wrongly connected left ventricle to the pulmonary artery. In this scenario survival of baby depends on the presence of inter-atrial (Patent foramen ovale) or inter-arterial (patent ductus arteriosus) channels. Palliative procedures like balloon atrial septostomy or prostaglandin infusion can buy only a short period of time because the chance of anatomical correction or arterial switch operation to restore normal connections, is lost if surgery is delayed beyond three weeks. Nonetheless, mortality in the babies who fail to get intervention-palliative or corrective, in first few days of life, is around 90%.

Case Report

A male baby born at 35 weeks with low birth weight (1.9 Kg) was diagnosed to have cyanotic congenital heart disease 72 hours after the birth as he had low levels of oxygen saturation(SPO2 65%) and was not responding to the oxygen supplementation. He was transported to our hospital on prostaglandin infusion on fourth day after birth. On the way, he deteriorated and was shifted to the surgical ICU immediately after arriving in the hospital. Echo was done, which confirmed the diagnosis of D-transposition of Great Vessels with closing patent ductus arteriosus and small ventricular septal defect. The inter-atrial connection was not adequate to maintain the adequate oxygen levels of body. First we thought to take the baby for balloon atrial septostomy but later with the approval of our surgeon we discussed the possibility to go for arterial switch operation on the very next day. Family opted for the second option despite of

narrating the possible risks. Baby underwent arterial switch operation on the day 6th of life. He came out from bypass successfully and was shifted to surgical ICU. He had transient AV dissociation and LV dysfunction initially. He made good recovery as sinus rhythm was resumed and LV function improved. However, it was not a smooth run later, once the ventilator support was minimised. Eventually, he had all possible complications and needed prolonged ventilation and ionotropic

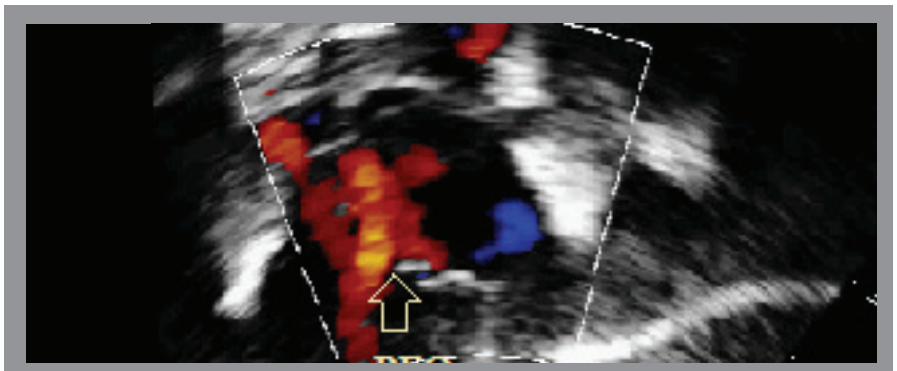

Fig.1: Small Patent Foramen Ovale: An inadequate site of mixing of right and left atrial blood.

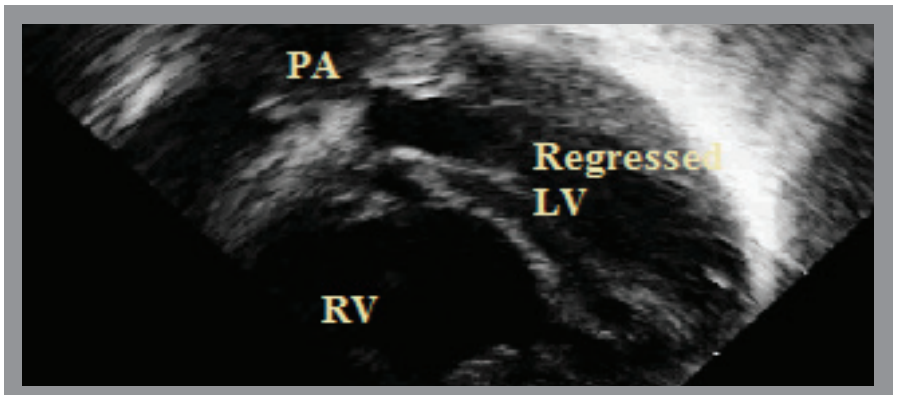

Fig.2: Echocardiography showing 4 chambered view on 5th day of life: Right ventricular(RV) dominance due to its connection to aorta (Systemic right ventricle). Interventricular shifts towards left ventricle due to low pressure LV (Sub-pulmonary ventricle) giving it a shape of banana. Still posterior wall thickness is preserved.

support due to non-resolving lung issues and hemodynamic instability. He had third spacing of fluid and needed prolonged pleural tube drainage. Besides, he had to fight with sepsis and thrombocytopenia. In the fourth post-operative week, tracheostomy was done so that lungs remain recruited by various modes of ventilation according to the need of baby and simultaneously he could stay awake. He tolerated continuous infusion of intra-gastric feeding with a balanced milk formula. He was decannulated from tracheostomy tube on the 10th day and was stabilised with invasive ventilation (CPAP). Finally he was weaned off gradually from respiratory support and was discharged in stable condition in the 7th week of life, after the mother got training to give him nasogastric feeding. He is on oral feeds, doing well now and gaining weight.

Discussion

Babies with D-TGA with intact ventricular heart failure in triage and need ASD /PDA for survival. Arterial switch operation, introduced by Abib Jatene et al in 1975, is the only way to get anatomically corrected heart but must be done ideally in first 2-3 weeks to avoid regression of left ventricular mass. The outcome of the anatomical correction is gratifying as more than 90% patients live a normal life without any reintervention. In infants presenting late, Atrial switch (Senning) operation is the usual method to correct hemodynamic abnormality physiologically, without achieving anatomical correction. It is a well established fact that right ventricle is not the natural candidate to work as systemic ventricle as it happens after physiological correction and therefore about 30% babies are in danger of developing dysfunction in 20-30 years post-operatively. Additionally, there are complications like baffle leaks or bradyarrhythmia needing pacemaker implantation. Nowadays, late arterial switch operation are done but the risks are much higher than an early procedure.

This patient had a number of the practical issues when he arrived to our hospital. Firstly, he was critical and was suspected to have infection. Secondly, he was an underweight baby with borderline maturity. Thirdly, family economically challenged. Considering all these adverse factors, palliative balloon atrial septostomy was one of the easiest options. However, in our experience, BAS leads to early regression of left ventricular mass and eventually making an early arterial switch compulsory.

Priming the corrective surgery with palliation also adds up to the immediate costs. Delaying the ASO leaves only the option of physiological correction letting the baby to have right ventricle as the systemic ventricle. Obviously, a baby born with 1.9 kgs would not be a safe, suitable candidate for even a simple cardiac surgery. But in this case, there was no possibility to have enough time to allow optimum weight gain in a short period of two weeks.

In view of all these factors and willingness of the family, arterial switch operation was opted to give infant the best chance of survival. Finances were arranged by Genesis Foundation. Jaypee Hospital administration and government of MP also helped in coping up with the cost.

The scenario is a story of the successful management of baby who started his journey because of prompt diagnosis and early transportation with appropriate prostaglandin infusion, from the Prayas hospital, Gwalior, arrangement of funds overnight from Genesis Foundation and a willing pediatric cardiologist, Pediatric cardiac surgeon, intensivist and anaesthetic team and support of the hospital staff and administration.

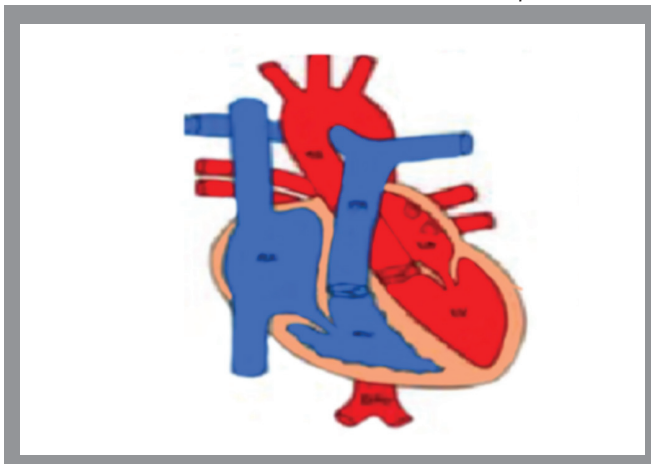

Fig.3: A normal heart: Pulmonary artery is connected to the RV while Aorta is connected to the left ventricle .

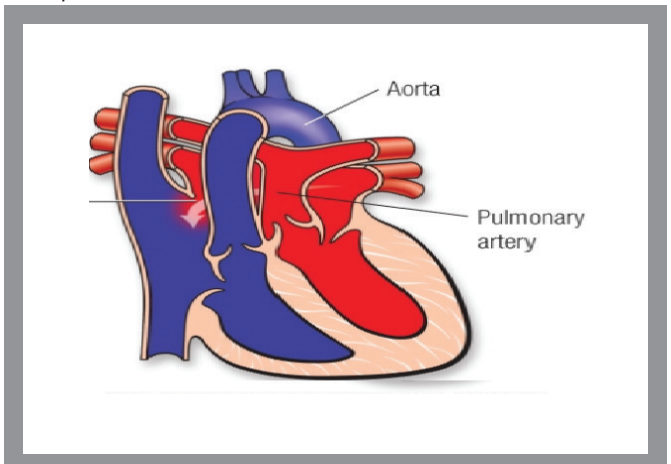

Fig.4: Transposition of Great arteries: Aorta is conneced to the right ventricle. Pulmonary artery is connected to the left ventricle.

Total Hip Replacement in Adult Dysplastic Hip



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Introduction

Adult patients with dysplastic hip develop secondary osteoarthritis and eventually end up with Total Hip Arthroplasty (THA) at younger age. Because of altered anatomy of dysplastic hips, THA in these patients represents technically demanding procedure. Distorted anatomy of the acetabulum and proximal femur together with conjoined leg length discrepancy, present major challenges during performing THA in patients with dysplastic hip.

Case Report

A 29-year -old female was presented to us with pain in left hip with limping along with shortening of left lower limb. There was no history of trauma or other joint involvement. She had a history of infection in left hip in her childhood, since then she was not able to walk properly and gradually developed painful hip with shortening of left lower limb.

Clinical Examination and Work Up

On examination, she managed to ambulate with a severely antalgic gait on the left. The left lower extremity was approximately 6cm shorter than the right. The left hip had 20 degrees of flexion, minimal internal and external rotation, and 20 degrees of adduction deformity, with a positive Stinchfield test. There was a healed scar present over the left hip area. Neurovascular examination of both lower extremities was normal.

Radiology Studies

AP (Fig. 1) and lateral (Fig.2) views of the left hip reveal a severely dysplastic acetabulum. The femoral head is flattened, dislocated superiorly, high riding greater trochanter and shows severe degenerative changes.

Several classification systems have been developed to grade the severity of DDH. One of the most popular is that of Crowe et al, which ranges from Type I (superior migration of the femoral head <50% of its diameter) to Type IV (>100% superior migration). The Crowe classification has been shown to have prognostic value in predicting the outcome of THR in DDH patients ; the worst functional outcomes and highest complication rates are seen in Crowe Type IV hips, particularly if a pseudoacetabulum has developed (as is the case in this patient).

Clinical Course

Due to the patient's severe disability because of her symptomatic left hip, it was recommended that she undergo a left THR. It was discussed with the patient that due to her abnormal anatomy, she might require bone grafting or other means of supplementing the acetabular reconstruction and possibly a femoral osteotomy to allow adequate mobilization of the femur and correct the angular deformity. Posterior approach to the hip was used. Adductor tenotomy was done before opening the hip joint to release adductor tightness. Significant scarring was noted about the hip capsule. In order to gain sufficient access to the hip, Trochanteric osteotomy was done and it was necessary to perform a fractional lengthening of the iliopsoas tendon and to completely detach the gluteus medius and minimus from the greater trochanter. The vastus lateralis was elevated off the femur, once the femur was adequately mobilized; the articulation of the femoral head with the pseudoacetabulum was exposed. The true acetabulum was then located, debrided of the soft tissues and reamed up to 41mm using power reamers. A porous-coated cup was implanted and had good bony coverage superiorly without the need for bone grafting. The femoral canal was broached and uncemented Wagner stem implanted. The acetabular liner and femoral head were implanted and the wound was closed in the usual fashion. Postoperatively, the patient had good relief of her hip pain with no neurovascular deficits. Radiographs (Figure 3) show good alignment and apposition of the femoral segments and good lateral coverage of the acetabular component.

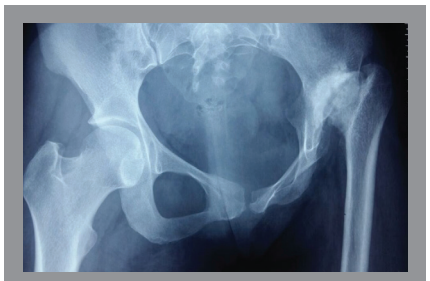

Fig.1: X-Ray Pelvis AP View

Fig.2: X-Ray Left Hip—Lat View

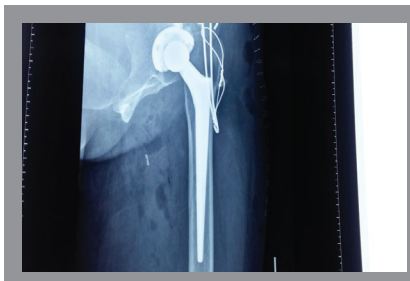

Fig.3: Post-Operative X-Ray

Total Body Irradiation in a case of ALL for Bone Marrow Transplant



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Aim of total body irradiation is to eradicate malignant cells by high dose systemic radiotherapy in conjunction with chemotherapy and to rescue the patient from the inevitable bone marrow toxicity by bone marrow transplantation. Total Body Irradiation also provide enough immuno suppression to allow an infused marrow or stem cells to engraft satisfactorily. High dose TBI is often necessary when HLA matching is less close so as to reduce chances of graft rejection.

We hereby present a 32-year-old lady who presented with the history of low grade fever, malaise, fatigue and ecchymotic patches all over the body and on bone marrow examination she was found to have Mixed Phenotype Acute leukemia.

She was treated with Hyper-CVAD1A and 1B regime and after cycle1A, she was in MRD negative complete remmission. She could get a full matched 10/10 unrelated donor so she was taken up for allogenic bone marrow transplant.

She was on high dose chemotherapy for conditioning and was referred to us for Total Body Irradiation. She was planned for TBI 12Gy in 6 fractions over 3 days to be followed by stem cell transfusion.

Technique of Total Body Irradiation

Total Body Irradiation is technically challenging as we need to obtain a large enough field to encompass the whole body using a conventional treatment unit, the machine must be used with an extended source patient distance as the largest field size available at normal working distances is 40cms, another challenge of total body irradiation is to obtain homogenous dose to the whole body, If open and unmodified beams are used, inhomogeneities of up to 15% may be found In thinner regions of the body such as the neck and ankles and doses may be larger than mid abdominal doses by up to 15%. Doses in the lung are variable but may be up to 10% higher because of increased transmission in air. Lung shields are used either as compensators to limit the lung dose to that received elsewhere in the body or to reduce the dose to minimize chances of pulmonary complications of total body irradiation.

In our Institute we have True Beam Stx Linear acclerator with eclipse treatment planning system for radiotherapy planning. Using these resources, we have developed a new technique with multiple isocenters to treat different parts of the body with homogeneous dose distribution also we were able to reduce dose to lungs by partially shielding the lung during each fraction of radiotherapy also we were able to reduced the dose rate specifically to lung fields thus reducing overall chances of radiation induced interstitial pneumonitis

We have given high dose TBI to this patient to a total dose of 12Gy in 6 fractions over 3 days duration. Patient has recieved 200cGY twice daily at 8 am and at 5pm daily for 3 consecutive days. Patient was treated in supine position and was immobilised with whole body vaccum cushion, planning CT scan of the whole body was done with slice thickness of 1cm. all the organs at risk were delineated to see the actual dose distributions in all these organs at risk. Computerized planning was done with multiple isocenters on varians eclipse treatment planning system and adequate care was taken so as not to place field junctions over any of the vital organs, all the organs at risk like lungs liver and kidney were contoured and dose distribution was obtained. Lungs were shielded by multileaf collimator partially during each session to keep total mean dose to lungs for less than 10GY also the dose rate to lungs was reduced to 40cGy/minute specifically in lung fields so as to minimize the chances of radiation induced pneumonitis.

Normal Body Responses & Effects Of Total Body Irradiation

Nausea and vomiting is expected in most of the patients after total body irradiation. After single fraction, exposure of 2 to 3Gy vomiting occurrs in about 75% of the patients and Nausea and vomiting may continue for up to 3-4 days.

Acute damage to the gut may result in severe diarrhoea, anorexia, cramping and abdominal pain occurring within 4 or 5 days of irradiation. Damage to the villi may result in malabsorption syndrome.

Bilateral parotitis is common after total body irradiation, but usually resolves within 24 hours.

In blood, there is a rapid fall in the lymphocyte count to almost 50% by the end of single fraction of total body irradiation also there is marked Rise in granulocyte concentration within 10 minutes of total body irradiation and then numbers may decline rapidly to initial or lower values.

Interstitial pneumonitis and graft versus host disease are the two most important factors contributing to early death after bone marrow transplantation.

Interstitial pneumonitis is characterized by fever, dyspnoea, cough and hypoxia within the period up to 100 days after transplantation.

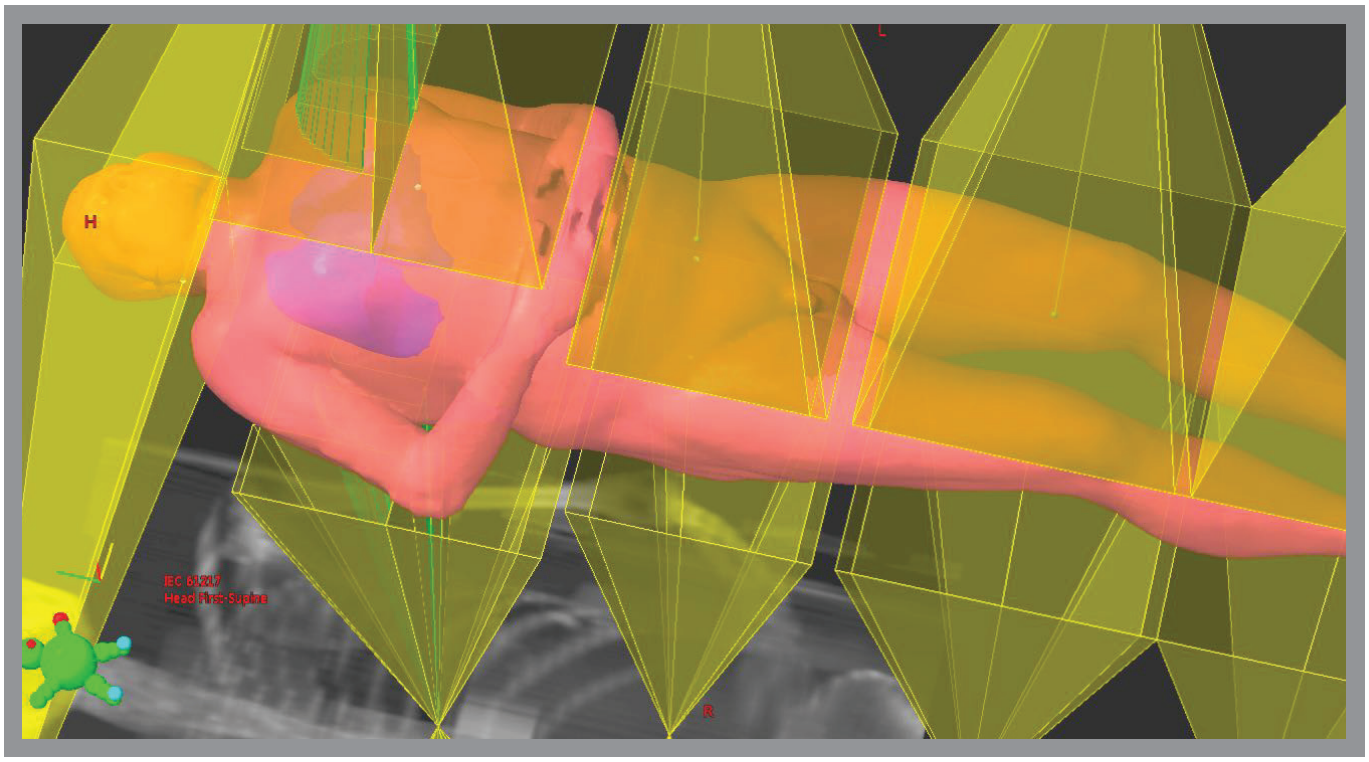
Nephritis is quiet common after local field irradiation to doses in excess of 20 Gy and may occur many years after exposure.Since we have given only 12 Gy which is well within the tolerance limits, chances of Liver and Kidney damage are remote with our protocol . Patient also has considerable risk of development of cataract later in life if dose to lenses exceeds more then 10Gy Gonadal function and fertility are known to be affected by high dose chemotherapy and total body irradiation but pregnancies have been reported after TBI given to males and females. Rarely patients may develop second malignancy after TBI, patients with A.L.L. were most likely to develop brain tumours whereas melanoma occurred more often in those treated for AML.

Patient Outcome

This patient developed febrile neutropenia on day 5 and blood culture was positive for Ecoli and was managed with suitable antibiotics. Patient also developed grade 3 mucositis and had difficulty in swallowing and was managed conservatively, mucositis resolved in 2 weeks and patient was able to take normal diet after 2 weeks .We have not come across any major events like GVHD veno-occlusive disease of liver or interstitial pneumonitis in this patient.

Successful engraftment of neutophil i.e. ANC>500/mm3 was attained on 11th day and a platelet count of >20000/mm3 was attained on 13th day of stem cell infusion. She had complete donor chimerism.

This patient is on close follow up and her disease is in full remmision without any significant toxicity at present .



Laparoscopic Colorectal Surgery: New Paradigm towards Excellence

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Introduction

Evidence has accumulated that the laparoscopic approach provides outcomes that are equivalent or superior to an open operation for a broad spectrum of colorectal procedures. Laparoscopic colectomy has not been accepted as quickly as laparoscopic cholecystectomy. This is because of its steep learning curve, concerns with oncological outcomes, lack of Randomized Controlled Trials (RCTs) and initial reports on port-site recurrence after curative resection. As the field continues to evolve, surgeons are gaining increasing experience with more complex procedures, including total abdominal colectomies and low pelvic dissection. These advances expand the spectrum of indications that are appropriate for laparoscopic approach and the number of patients who potentially benefit from the technique.

Case 1

A 48-year-old businessman from Meerut presented to us with h/o left quadrant pain abdomen for 15 days; following which patient noticed passing of gas bubbles while passing urine; He gave history of burning micturition but denied any history of blood in urine. He also had fever with chills for which he consulted a general physician who had advised broad spectrum antibiotics. He recovered from fever with the treatment but the pneumaturia persisted. Patient also had history of constipation for a long period of time for which he was on regular treatment. There was no other history of any comorbidity. Patient was evaluated for these symptoms. CECT abdomen was done which revealed sigmoid diverticulosis with inflammatory phlegmon with colo-vesical fistula; Cystoscopy confirmed the presence of fistula at the dome of the urinary bladder. Sigmoidoscopy also revealed presence of diverticuli in sigmoid colon. Patient underwent Laparoscopic dissection of colo-vesical fistula with separation of urinary bladder from sigmoid colon, urinary bladder repair with sigmoid colectomy with stapledcolo-rectal anastomosis using circular stapler. Patient allowed liquids orally 1st day of surgery; abdomen drain removed 3rd day of surgery and discharged on 4th day.

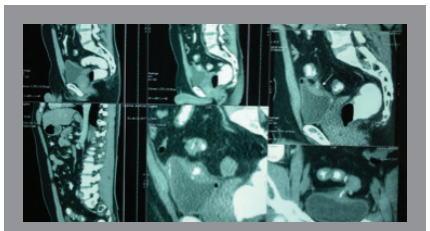

Fig. 1: CECT abdomen showing colovesical fistula between sigmoid colon and dome of urnary bladder.

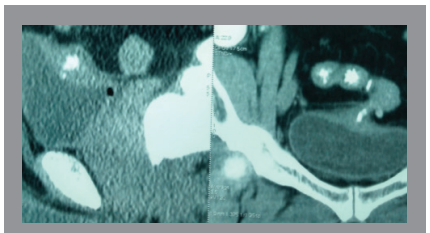

Fig 2: CECT abdomen showing colovesical fistula between sigmoid colon and dome of urinary bladder.

Case 2

A 53-year-old male presented with chief complaint of bleeding per rectum and constipation; h/o weight loss and anorexia present. Sigmoidoscopy show growth at recto-sigmoid junction, biopsy s/o adenocarcinoma; CECT show mass at the rectosigmoid colon and no distant metastases. Patient underwent laparoscopic anterior resection; he was mobilized on the day of surgery and allowed clear liquids next day. He was discharged on 4th post-operative day.

Discussion

Following its introduction in the late 1980s, laparoscopic cholecystectomy rapidly became the standard of care; success with this

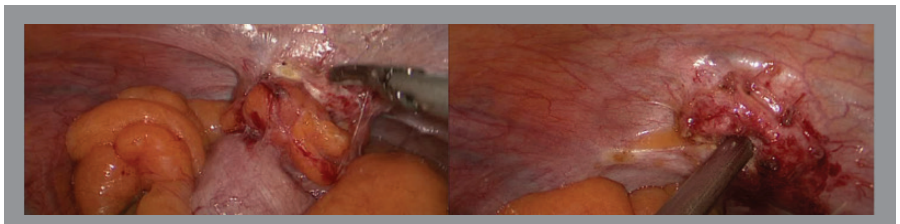

Fig. 3: Operative photograph of Colovesical fistula, right photo showing fistulous opening at the dome of urinary bladder

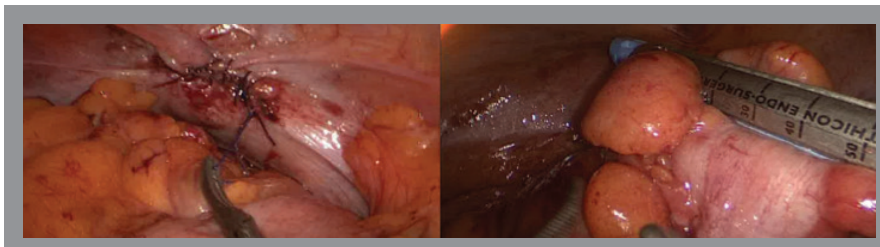

Fig. 4: Operative photograph showing repaired urinary bladder and transection of sigmoid colon.

procedure had led naturally to the application of minimally invasive techniques to other intra-abdominal organs. Evidence has accumulated that the laparoscopic approach provides outcomes that are equivalent or in some cases superior to an open operation for a broad spectrum of colorectal procedures. Laparoscopic Colorectal Surgery (LCRS) dates back to 1991. In the 2nd decade since this initial experience was published by Jacob's et al, laparoscopic colorectal has become more common. Surgery has become a standard of care for patients requiring a wide array of colon and rectal operations. The use of laparoscopy is gaining widespread acceptance and is used more frequently to manage both benign and malignant colorectal conditions. A large number of colorectal studies and meta-analysis have shown that laparoscopic colorectal surgery is associated with the same benefits than other minimally invasive procedures, including lesser pain, earlier recovery of bowel transit and shorter hospital stay. On the other hand, despite initial concerns about oncological safety, well- designed prospective randomized multicentre trails have demonstrated that oncological outcome of laparoscopy and open surgery are similar. It has also been suggested that the short term advantage of laparoscopy is related to decreased inflammatory response. Several studies have demonstrated lower serum levels of interleukin – 6 and other proinflammatory cytokines, which are sensitive markers of tissue damage, after laparoscopic colectomy than after open resection. Laparoscopic Rectal and colon cancer. Despite the initial concerns regarding the oncological safety of the laparoscopic approach,

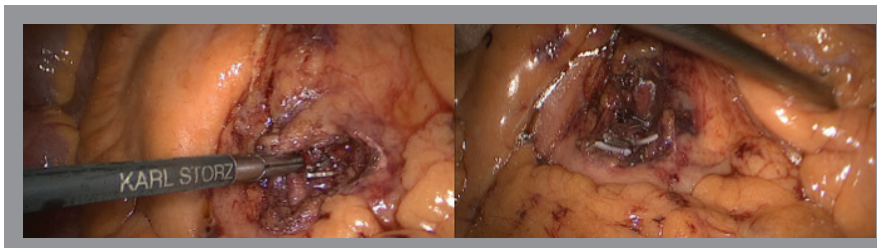

Fig. 5: Operative photograph of dissection of superior rectal vessel for medial to lateral dissection in carcinoma rectosigmoid junction

well-designed prospective randomized multicentre trials have demonstrated no difference in the incidence of metastases in the surgical wound as well as in oncological outcomes when the laparoscopic approach was compared to open surgery. The use of laparoscopy for the management of colorectal cancer is currently accepted world-wide. Laparoscopic surgery in inflammatory bowel disease, despite it being technically demanding, several case-control studies and randomized trials have demonstrated that a laparoscope approach for ileocolic and also for colonic diseases is as effective as open surgery with many short term benefits in Crohn's diseases. Laparoscopic surgery also has an evolving role in the management of ulcreative colitis and Familial Adenomatous Polyposis (FAP). Total abdominal colectomy, proctocolectomy, Ileoanal Pouch-Anal anastamosis (IPAA) are all feasible and can be formed safely by laparoscopic approach. A recent review of literature found longer operative times among patients having a laparoscopic operation, but similar shor term and long term outcomes. Laparoscopic surgery in rectal prolapsed. Several different Transabdominal operations are widely used for rectal prolapse, including rectopexy, recto sigmoid resection, mesh fixation, and continuation thereof. Each of these components is technically feasible using a laparoscopic approach. Laparoscopic surgery in diverticular disease-tMinimally invasive surgical techniques are well employed in performing the spectrum of surgical procedures required for diverticular diseases. Sigmoid colectomy, left colectomy and diverting ileostomy /colostomy are all eminently feasible in most cases. Fistulas between the sigmoid colon and skin, bladder, uterus or vagina are rare but do not represent a contraindication to laparoscopic approach. The most common of these fistulas-colovesical fistulas required only minimal dissection to separate the sigmoid colon from the bladder, followed by bladder decompression with a foley's catheter for 5 to 7 days to allow healing. Preoperative or intra operative urethral stent placement may be helpful in selected cases. A combination of lateral to medial and medial to lateral techniques also may be helpful. More recently laparoscopic lavage and placement of drains has been used in the treatment of complicated diverticulitis like diverticulitis without fecal peritonitis.

Conclusion

Evidence has accumulated that the laparoscopic approach provides outcomes that are equivalent or superior to an open operation for a board spectrum of colorectal procedures. The benefits of minimal invasive technique for colorectal surgery can be extended to larger section of population by proper preoperative selection of patients.

Uterine Artery Embolisation in Adenomyosis with Uterine Fibroids



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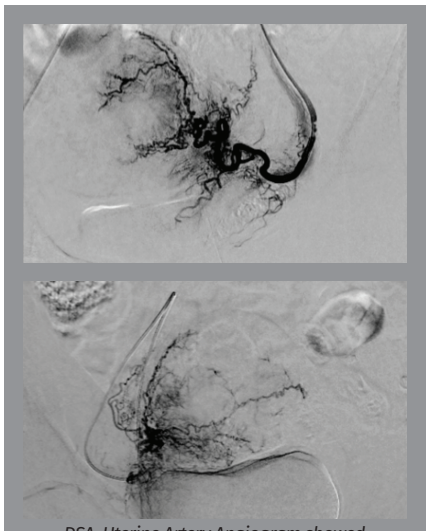
Case Report

A 47-year-old female presented with complaints of excessive bleeding with on & off discharge after urination. Patient also complained of pressure symptoms. She was admitted in Jaypee Hospital for further evaluation and management. No history of diabetes mellitus, epilepsy, TB, asthma or thyroid disease was found. Neurological, CVS, chest, abdominal examinations were normal. All relevant yinvestigations CBC, LFT, KFT, PT/INR were normal. Viral marker, HIV/HBV/HCV were negative. CEMRI pelvis findings revealed bulky uterus with multiple fibroids in intramural, submucosal and subserosal location with diffuse adenomyosis. TVS showed bulky adenomyotic uterus with multiple myomas. Uterine artery embolisation was done in state-of-the-art PHILIPS FD20 CLARITY HYBRID-DSA LAB. Procedure was done under LA. Right femoral artery access was taken with femoral sheath (6F). Angiogram was performed before and after the procedure. Both uterine artery angiogram showed dilated both uterine arteries diffuse hypervascular mass/blush on both sides. It was embolised with PVA particles & gelfoam material. Post procedure, angiogram showed disappearance of vascular blush. Post-procedure patient complained of pain & managed conservatively & discharged after 24 hours. After successful UAE, patient presented with complete or near complete devascularization of the fibroid tumor tissue and was very satisfied with desired clinical outcomes.

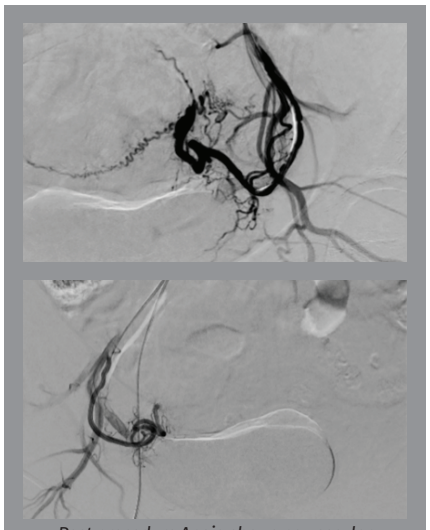
Discussion

Uterine leiomyomas are common benign tumours in women of childbearing age. Symptomatic uterine leiomyomas can be treated by medical treatment or surgery . For several reasons, an increasing number of women want to preserve their uterus, leading to the development of uterus-sparing therapies such as Uterine Artery Embolization (UAE), myomectomy, and high-intensity focused ultrasound treatment. UAE was introduced as an alternative treatment to surgery for women with symptomatic leiomyomas. The employment of this treatment has increased rapidly. UAE has been recognized as an effective alternative to hysterectomy and myomectomy. Several published studies showed favorable clinical outcomes and satisfaction at as long as 1 year after embolization Uterine artery embolisation is associated with a high clinical success rate and good fibroid volume reduction. I would suggest that fibroid embolisation is an effective treatment for fibroids with a low complication and failure rate.

T2WI MRI Images- Multiple Fibroids in Intramural location with Diffuse Adenomyosis CEMRI



DSA Uterine Artery Angiogram showed Hypervascular Tumour Blush



Post procedure Angio shows no vascular blush with normal uterine arteries

Endoscopic Stone Management in a Child with Bilateral Partial Staghorn Calculus



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Introduction

Paediatric endoscopic stone management is safe and effective way of dealing large stone burden and now a days, it is widely practised in a tertiary care centre where good expertise and paediatric instruments are available.

Material & Methods

Hereby we present a 2.5-year-old-male child from Turkistan who presented to our hospital with complaints of vague abdominal pain. Physical examination was unremarkable. On initial evaluation ultrasound suggested left hydroureteronephrosis with bilateral multiple renal stone. The blood tests and renal function were normal. CT scan showed right hydronephrotic kidney with partial staghorn calculus and multiple lower calyceal stones (Fig. 1). The Left kidney had moderate hydoureteronephrosis with large 1.5cm lower ureteric stone and multiple lower calyceal renal stone (Fig. 2). DTPA was suggestive of left poor functioning kidney (22%) with total GFR 80ml. A detailed metabolic evaluation and nephrology consultation was made to rule out renal tubular acidosis. However no definite metabolic abnormality except low urine ph was found. Child was planned for staged left followed by right endoscopic stone clearance surgeries. The child was taken for left URS and PCNL, where the left ureteric stone was pushed back into the kidney and then PCNL was done and a complete stone clearance was achieved. Subsequently, right PCNL was done in two stage and a complete stone clearance was achieved. The post operative periods were uneventful. The stone analysis report suggested mixed oxalate monohydrate and cystine stone. The child was advised urinary alkalizer to keep urine ph above 7.5 and dietry changes such as to avoid non vegetarian diet and eggs (rich in methionine) and low salt intake. The child was discharged with B/L DJ stent which were to be removed in follow up after 4 weeks.

Discussion

The prevalence of urolithiasis is nearly 2-3% in children, the risk of recurrence may range from 6.5-54%. The goal of treatment of paediatric urolithiasis includes removal of the stone, preservation of renal function, prevention of recurrences and correction of anatomical and underlying problem. PCNL in young children need advanced instruments such as smaller nephroscope (15 to 18 Fr, mini perc) and more efficient energy sources for intracorporeal lithotripsy including holmium:YAG laser. With more experience, it is now safely being performed in children and now PCNL has replaced open surgery as the treatment of choice for large stone burdens in children of all ages. The tstandard practice while doing PCNL in children is, to keep well positioned amplatz sheath to reduces the risk of hydrothorax by allowing free exit of irrigant, avoid excessive manipulation of nephroscope to prevent Injury to the pelvicaliceal system causing bleeding. Duration of the surgery should also be kept minimum to avoid risk of sepsis and hypothermia.

Conclusion

PCNL offers good clearance rates with acceptable morbidity. The literature suggests that even complex and staghorn calculi can be tackled with this approach. Miniaturization of instruments, particularly smaller nephroscopes and newer energy sources decrease the morbidity and improve the clearance rates.

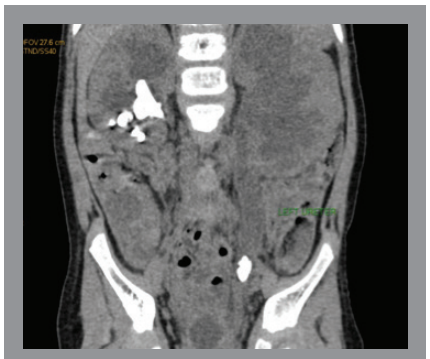

Fig.1: Right Staghorn Renal & Left Uretric Stone

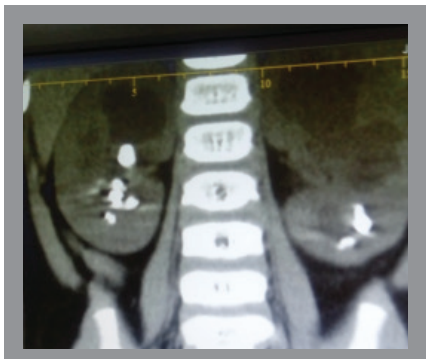

Fig.2: Bilateral Partial Staghorn Renal Stone

Reduction Mammoplasty Procedure

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Reduction mammoplasty or breast reduction is a plastic surgery procedure for reducing the size of large breasts. The indications for breast reduction surgery are three-fold: physical, aesthetic, and psychological. The abnormal enlargement of the breast tissues is caused either by the overdevelopment of the glandular or of the adipose tissue, or by a combination of both factors. The oversized breasts can present as macromastia (>500 gm per breast) or gigantomastia(>1,000 gm increase per breast).

The complaints associated with oversized breast are both physical and psychological. The patient suffers from chronic pain in the head, neck, shoulders, and back. There are also complaints of difficulty in breathing, infection of the chest and inframammary skin andbrassiere-strap indentations to the shoulders. Also, unwanted attraction, inability to wear regular size clothes and difficulty during exercise add to the mental woes of the patient. Breast hypertrophy does not respond to medical therapy. Weight reduction in an overweight woman can alleviate some of the symptoms due to excessive size of her abnormally large breasts. Physiotherapy provides some relief for sufferers of neck, back or shoulder pain. Skin care will diminish breast crease inflammation and lessen the symptoms caused by moisture, such as irritation, chafing, infection and bleeding.

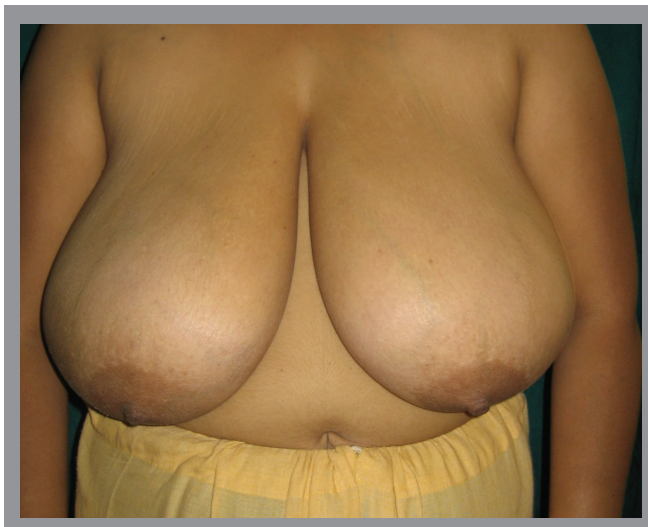
Breast reduction surgery cannot be performed if the woman is lactating or has recently ceased lactating; if her breasts contain unevaluated tissue masses or unidentified microcalcifications; if she is suffering a systemic illness; if she is unable to understand the technical limitations of the plastic surgery and her inability to accept the possible medical complications of the procedure.

Pre-operative planning includes the photographs of the oversized breasts, the sternal-notch–to-nipple distances, and the nipple-to–inframammary-fold distances. The patient is instructed about the achievable corrections, the expected final size, shape, and contour of the reduced breasts, the expected final appearance of the breast reduction scars; possible changes in the sensation of the Nipple-Areola Complex (NAC), possible changes in her breast-feeding capability, and possibility of partial or complete (rare) loss of nipple areola complex.

There are five principal techniques for breast reduction:

1. Inferior pedicle
2. Superior pedicle
3. Central mound
4. Breast amputation and nipple free graft
5. Liposuction

Postoperatively, the patient is instructed to resume her normal life activities after the day of the surgery. The patient is instructed to avoid strenuous physical activity and wear a sports brassiere for 6 weeks. She is also informed that the scar usually fade in 6 months' post-operative, yet some cases might require surgical revision of the vertical scar. The average breast-volume reduction after reduction mammoplasty is by three brassiere cup-sizes.



Pre-Operative: 35 year old lady with post pregnancy breast hypertrophy

Post-Operative: Correction after breast reduction procedure

Uterine Fibroids – Endoscopic Removal (Hystero - Laparoscopy)

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Fibroids are abnormal growths in the uterus. It is estimated that between 20 to 50 percent of women of reproductive age have fibroids, although not all are diagnosed. Regardless of their location, size, or number, uterine fibroids are found in about 5-10% of women with infertility. For approximately 1.0-2.4% of women with infertility, fibroids are the only abnormal findings. The exact cause of fibroids is not clearly known. Based on the fact that they appear after menarche and shrink after menopause, it is believed that fibroids develop from a rapid division of aberrant muscle cells in the uterus, under the influence of estrogen hormone. Fibroids tend to appear more commonly among obese women, those with who have not borne children and in women with a family history of fibroids. Symptoms depend upon the location, size & number of fibroids.

Subserosal variety- These are present where the fibroid grows on the outer wall of uterus and are usually asymptomatic. Such fibroids may be diagnosed incidentally during routine ultrasounds, or may produce a firm mass leading to heaviness in the abdomen. When very large, they may start pressing the adjacent organs, leading to pressure symptoms as increased frequency of urination, constipation, etc.

Intramural fibroids- These are growths in the wall of the uterus. When large (more then 4 cms) they may cause severe pain during menses, heavy bleeding or infertility.

Submucous fibroids- They grow towards the cavity of the uterus & give rise to heavy bleeding, even when small in size. They are also a cause of infertility and repeated abortions.

Hysteroscopic view of submucous myoma

Fibroids during pregnancy- Fibroids when diagnosed during pregnancy, may have the following complications such as red degeneration, preterm labor, placenta previa, malpresentation, foetal growth restriction, labor dystocia, cesarean delivery, postpartum hemorrhage and retained placenta.

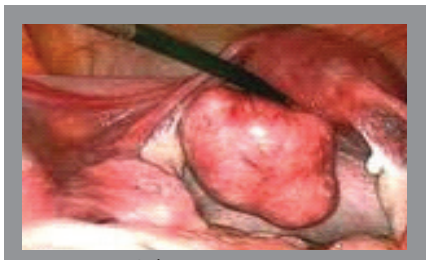
Treatment

Not all fibroids need treatment. When symptomatic, treatment options include medicines which keep the fibroids suppressed for the duration of therapy, surgical removal of fibroids or the uterus & uterine artery embolization.

Hysteroscopic myomectomy- It is a daycare procedure for removal of submucous fibroids through the vaginal route. Uterus is distended with a liquid medium as saline or glycine and complete fibroid is shaved off in layers with a resectoscope, while viewing the entire uterine cavity on a camera monitor system. This surgery should be performed by an expert surgeon, with good anaesthetic monitoring facilities, as the complication of fluid embolism, if left unnoticed, can be life threatening.

Case 1

Mrs. SD, 35 years female, presented with complains of heavy irregular menses of six months duration, which had failed to respond to medical treatment. She had two living children. Her ultrasound showed submucous myoma, partially bulging into the uterine cavity. Her hysteroscopic evaluation showed a 2 cms, grade 1 myoma, more then 50% bulging into the cavity. Myoma was resected with a resectoscope in the same sitting. Patient was discharged within six hours & had an uneventful recovery. In a six months follow up she was found to have a complete symptomatic relief.



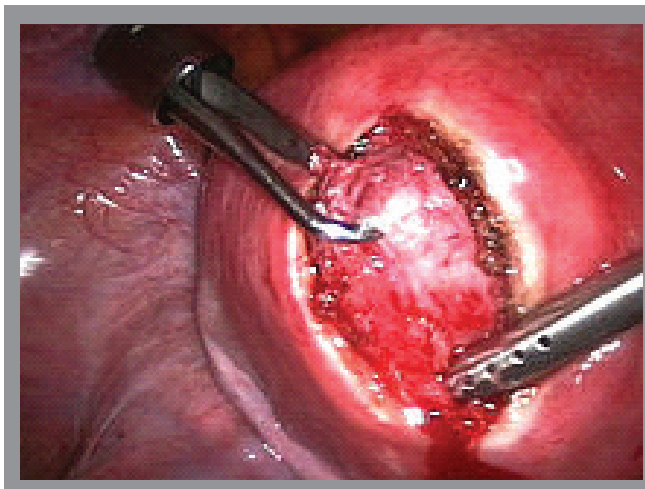
Subserous myoma

Laparoscopic myomectomy- The laparoscope is a slender telescope that is inserted through the navel to view the pelvic and abdominal organs, through a one cm puncture. Two or three small, half-inch incisions are made on either sides and instruments are passed through them to perform the surgery. For an expert surgeon, size of the fibroid is not a limit. Fibroids of any size, with multiple previous caesareans can be easily performed by laparoscopy, giving patient the benefit of minimal access surgery.

Case 2

Mrs. MK, 38 years old female, previous two caesarean deliveries, presented to us with severe menstrual pain & irregular menses since 1 year. Her ultrasound showed a single large intramural fibroid of 8 cms at the fundus. As she was young, all treatment options were discussed with the patient. A decision of laparoscopic myomectomy was taken. With history of previous 3 caesareans, all precautions for careful abdominal entry were taken. After initial assessment of the uterus, tubes and ovaries, fibroids were localized. As expected, her previous three caesareans had led to dense adhesion formation. Adhesiolysis was done with harmonic ace. To prevent bleeding, which can often be a challenge in myomectomy surgery, dilute vasopressin was injected in the myoma subcapsular plain, till the entire area looked blanched. The capsule was transversely incised, till the fibroid bulged

out. A myoma screw was used to stabilize the fibroid and with traction and countertraction, the fibroid was separated. Care was taken, not to open or injure the endometrial cavity. Fibroid bed was sutured with 2 layers of absorbable suture. Fibroid was removed by morcellation in a bag, to prevent spllage of tissue. Haemostasis was ensured. To prevent recurrence, patient was counselled & an LNG IUD (a continuous releasing intrauterine device), was inserted in the uterus.

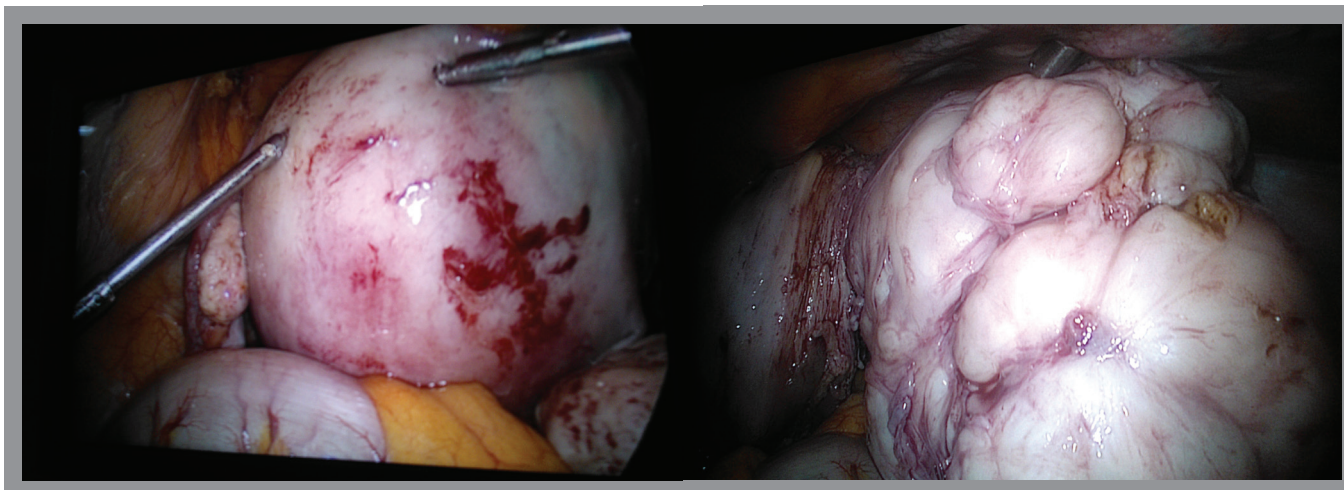


Intramural Myoma

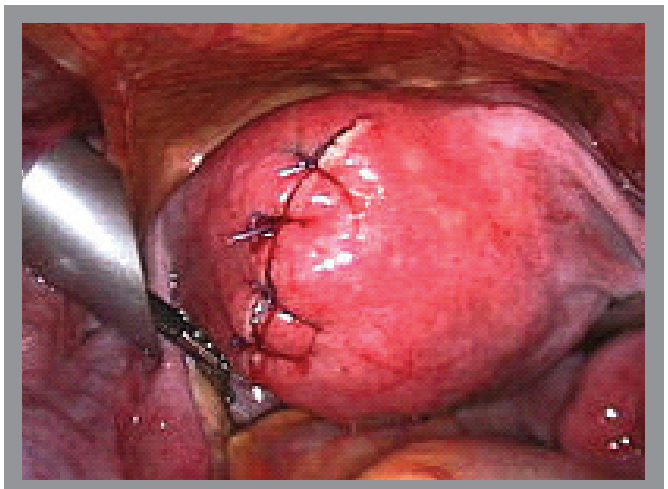
Risks

Some of the concerns in myomectomy are uterine rupture & recurrence. These risks are not increased with the well performed laparoscopic surgery .

Uterine rupture- The rate of rupture observed at birth, after myomectomy, at laparotomy is about 5.3%. Laparoscopic approach does not increase the risk. However, a planned cesarean section is recommended in a subsequent pregnancy, if more than 50% of the myometrium has been disrupted. Excellent endosuturing skills, minimum use of cautery help in giving a strong scar. Recurrence– Risk is about 50% in five years. Hence patient should be given medical therapy, to keep the fibroids from reappearing. Fertility can be planned 2-3 months after myomectomy.



Myoma enucleation



Sutured myoma bed

Morcellated myoma 1.1 kg specimen

Conclusion

To conclude, laparoscopic myomectomy should be the technique of choice for removal of fibroids. This is a minimally invasive approach with small scars, short hospital stay of 24 hours, minimal pain, bleeding & quick return to normal active life.

Our endeavour towards quality (January to March 2017)

We continuously strive to serve our clients with quality of services. Our teams work to monitor the quality of services in various areas of the hospital and work to continuously improve the services.

The IPD bed occupancy has been increasing consistently with an average of 49.83% for 2016. The patient satisfaction index for the IPD and OPD 88% and 98% respectively.

The satisfaction index is monitored by the top management every month.

We believe in prevention is better than cure and have various executive health check- ups. The satisfaction index in the EHC is 99%.

Our team of skilled surgeons have performed more than 5000 surgeries in 2016 and our team of anaesthesists have supported them in all ways. The change in the anesthesia plan has been limited to 0.15% in 2016.

We at Jaypee hospital care for healthcare, workers from all segments and believe in taking regular feedbacks from them. The employee satisfaction index was 92.96% and 86% for the doctors and other employees respectively.

Our Diagnostic services play a key role in patient care and try to keep the waiting time to minimal.

Our waiting time for the non invasive cardiology is 26 minutes.

With more than 700 blood transfusion per month the transfusion reactions have been nil. With the increasing urinary catheter days the CAUTI rates have been < 2% for 2016.

Inorder to assess and maintain organizational standards, monitoring of various organizational indicators are done.

Such as percentage of medication errors and hospital acquired infection rate beside the International Patient safety goals are monitored.

International Patient Safety Goals

1. **Improve the accuracy aspect of patient's identification using**
   - Patient Name
   - UHID
2. **Improve effective communication**
   - Ensure verbal order policy is followed
   - Ensure proper patient handover
3. **Improve the safety of high alert medications**
   - Ensure Medication Management Policy is followed
4. **Ensure the correct site, procedure and patient surgery**
   - Follow time-out before all surgeries & invasive procedures
5. **Reduce risk of health-care associated infections**
   - Follow 5 moments of hand-hygiene
   - Perform 7 steps of hand-hygiene
6. **Reduce risk of patient harm resulting from falls**
   - Ensure fall prevention protocols are followed

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- Institute Of Neurosciences
- Institute Of Renal Diseases
- Institute Of Aesthetic And Reconstructive Surgery
- Institute Of Mother And Child
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- Department of Emergency and Trauma
- Department of Critical Care and Anaesthesiology
- Department of Respiratory and Critical Care Medicine
- Department of Endocrinology and Diabetes
- Department of Infertility and IVF
- Department of Internal Medicine
- Department of Rheumatology
- Department of Ophthalmology
- Department of ENT
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- Department of Laboratory Medicine
- Department of Transfusion Medicine
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