JAYPEE HOSPITAL
LIFE FIRST

JAYPEE MED REVIEW

January'17 - March'17
Vol. 4

ABO Incompatible Kidney Transplantation

Recurrent Stent Thrombosis: A Mystery

Complex Suprasphincteric Fistula-in-Ano

Right Frontal AVM successfully excised

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

TABLE OF CONTENTS

ABO Incompatible Kidney Transplantation



Dr. Amit K. Devra - MS, DNB (Urology)
Senior Consultant, Dept. of Renal Transplant
Dr. Vijay Kumar Sinha - MD, DNB (Nephrology)
Consultant, Dept. of Nephrology
Dr. Prashant Pandey - MD (Blood Transfusions & Immunohaematology)
Consultant, Dept. of Blood Bank & Transfusion Medicine

Introduction

ABO blood group incompatibility is traditionally considered a contraindication to organ donation and kidney transplant. However, due to a shortage of donors increasingly, ABO incompatible donors are now being accepted for donation. This has also helped to increase the donor pool. Gradually with more experience, we have learnt to manage the ABO incompatible kidney transplant more effectively and currently; the outcomes are almost the same as an ABO compatible kidney transplant.

Material & Method

We did our first ABO incompatible kidney transplant at Jaypee Hospital on 25th October 2016. Our patient was a 45-year-old gentleman who had hypertension & ESRD. He was on maintenance haemodialysis for the last 6 months. His blood group was O. He had two potential donors in his family. The first, his mother whose blood group was B and the second, his wife whose blood group was A. No other potential donor was available in the family. We looked for his antibody titers. His anti-A antibody titer was 1:1024 and his anti-B antibody titer was 1:256. We accepted his mother, as her titer was acceptable. After a thorough evaluation of the donor & recipient along with the requisite clearances, we enrolled him for kidney transplantation. On POD (-) 14, he was given inj. Rituximab (375 mg/m2). His anti-B antibody titer was monitored during the next week. Plasma exchange by immunoadsorption techniques was started on POD (-) 7 with a baseline titer of 1:256. He received 6 sessions of plasma exchange. After achieving anti-B antibody titer of 1:4, he underwent the kidney transplantation procedure on 25th October 2016. His titers remained stable in the post-operative period. He was discharged on POD 8th with a serum creatinine of 1 mg/dl. On POD 10, his serum creatinine was increased to 1.6 mg/dl. The anti-B antibody titer was 1:4. Kidney allograft biopsy was done immediately to look for any evidence of rejection. His urine cultures showed no growth. The biopsy report was not suggestive of any sign of rejection. The patient was started on the empirical IV antibiotics. His renal function improved after the treatment and the patient remained completely stable.

Discussion

Principles involved in ABO incompatible kidney transplants primarily is the removal of pre-existing ABO antibodies by plasma exchange or immunoadsorption techniques & the prevention of new ABO antibody generation by the use of immunosuppression like rituximab, intravenous immunoglobulin given during the post-plasma exchange along with the other immunosuppressive medications (Tacrolimus, MMF).

Once an acceptable ABO titer less than or equal to 1:8 is achieved, kidney transplantation proceeds. Usually, induction is done by using either an IL 2 inhibitor (Basiliximab) or an anti-thymocyte globulin. Post-transplant, antibody monitoring is done to keep acceptable titers of less than 1:16 in the first week and titer less than 1:32 in the second week. If needed, post-transplant antibody depletion is done by plasma exchange.

Graft function is monitored very closely and in the case of any graft dysfunction, a low threshold for renal allograft biopsy is kept to detect early graft rejection. The optimum immunosuppression drugs used are Tacrolimus, MMF and steroids.

Conclusion

ABO blood group incompatibility kidney transplant has become very safe and feasible. This provides a viable option for a kidney transplant recipient who has no compatible blood group donor in his family.

Right Frontal Arteriovenous Malformation (AVM)



Dr. Rohan Sinha - MS, M.Ch. (Neurosurgery)
Senior Consultant, Dept. of Neurocritical Care & Neurosurgery
Dr. Dinesh Rattnani - M.Ch. (Neurosurgery)
Senior Consultant, Dept. of Neurocritical Care & Neurosurgery
Dr. Kiran Reddy - DM (Neuroanaesthesia)
Consultant, Neuro Anaesthesia

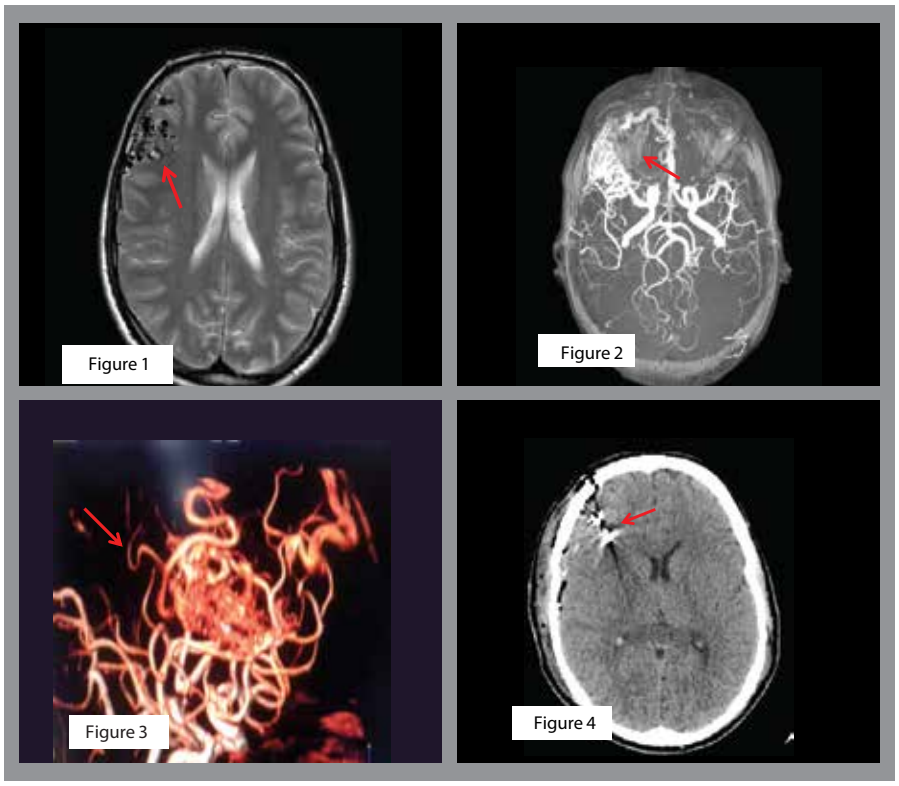
Arteriovenous Malformation (AVM) of the brain is a tangle of abnormal and poorly formed blood vessels connecting the arteries with the veins. They are uncommon and occur in less than 1% of the population. They are usually detected in young adults before the age of 40. The patients usually present with seizure, intracranial bleeding, progressive neurological deficit and headache. The treatment is challenging and risky. It can cause bleeding and life-threatening brain damage. The treatment options are surgery, antiepileptic drugs and radiation therapy.

Case Report

A 28-year-old male was presented with multiple episodes of seizures. On examination, he had no neurological deficit. MRI Brain with Epilepsy Protocol was done, which revealed features suggestive of high flow AVM in the frontal region with mild surrounding gliosis (Fig.1). No evidence of any haemorrhage or ischemic insult were seen in the surrounding parenchyma. MR angiography (Fig.2&3) and Digital Subtraction Angiography (DSA) confirmed the right frontal AVM with feeders from the right Middle Cerebral Artery (MCA) & Anterior Cerebral Artery (ACA) and drainage to superior sagittal sinus through superficial cortical veins. The patient underwent Right Fronto Temporo Craniotomy with total excision of AVM node under GA. Multiple arterial feeders were ligated and dissected. The AVM had two large feeders from MCA and ACA which were clipped using titanium haemostatic clips. Post-operation, the patient was kept in ICU on ventilator support. He was gradually weaned from the ventilator over a period of 2 days and shifted to a ward on the 3rd day. During the ICU stay in the perioperative stage, he had just 1 episode of a seizure and his antiepileptic drugs were modified to counter it. During the ward stay the patient gradually improved and post-operative CT scan showed no haematoma (haemostatic clips in situ with local post-operative changes - Fig.4). He was discharged in a conscious state without any neurological deficit. At 6 months, he is seizure free, has no neurological deficit and is actively involved in his work.

Discussion

AVM can occur in any part of the human body but brain AVMs are special because of their damaging effect on the brain, if left untreated. Brain AVMs are classified on the basis of the size, arterial feeders, draining veins and eloquent nature of the brain parenchyma. The treatment is done on the basis of the classification type of the AVM based on the above parameters. The present patient had Grade 2 type AVM (Spetzler Martin Classification). The treatment for such type is surgery. The other treatment modalities are endovascular embolization of the arterial feeders and radiation therapy (gamma knife) for other types. The treatment was necessary as the patient had 70-80% chance of intracranial bleeding. The treatment cured the chances of haemorrhage but episodes of seizure can happen for which he shall be monitored regularly.



Successful Allogeneic Stem Cell Transplant for very severe Aplastic Anaemia

Dr. Esha kaul - MBBS, Board certified in Internal Medicine and Haemotology from the American Board of Internal Medicine
Associate Consultant, Dept. of Haemato-oncology & Bone Marrow Transplant
Dr. Pawan Kumar Singh - MD, DM (Haematology)
Associate Consultant, Dept. of Haemato-oncology & Bone Marrow Transplant

Case Report

A 27-year-old man was presented to the emergency department at Jaypee Hospital with fever and severe weakness. He reported blood in his stool as well as melena for 2 weeks. He had also reported severe perianal pain. He had been evaluated at a local facility 2 days prior to the presentation but no definitive diagnosis had been made. Upon physical examination, it was found that he had a fever of 102^0 F, severe pallor and a perianal fissure. His admission blood tests showed severe pancytopenia with Hb 2.2/Plt<5,000/cumm, TLC: 1.6 with 15% neutrophils & ANC 160, reticulocyte count<0.5%, viral markers negative and LDH 285. He was initially admitted to the ICU and was started on transfusion and antibiotic support with Piperacillin/Tazobactum. An urgent bone marrow aspiration and biopsy was done, which showed hypocellular marrow. The overall clinical picture was consistent and exhibited severe aplastic anaemia.

The patient has 4 siblings. Urgent HLA typing of 3 brothers was done and fortunately, his 40-year-old brother was a full match (6/6 match at A, B and DR). Both the donor and the recipient had pre-transplant fitness testing done and were found to be fit. Fludarabine and Cyclophosphamide were chosen for pre-transplant conditioning. Since the patient was recently diagnosed and had received less than 20 units of blood products, ATG was not given during this stage. Throughout this process, the patient was kept on antibiotics and strict neutropenic precautions because of him being reported of severe neutropenia. His brother was started on G-CSF and stem cells were harvested peripherally one day prior to the day of the transplant. The patient was transfused 8x10^6CD34 cells/kg uneventfully. Neutrophil engraftment was achieved on the 10th day and he engrafted platelets on 18th day and was discharged on 18th day post transplant.

Post-transplant chimerism analysis on day 18 showed 99.5% chimerism. There has been no CMV reactivation since. The patient is now 2 months post transplant with Hb 10 gm/dL, TLC 6500/cumm and Platelets 150,000/cumm. There is no evidence of graft versus host disease as well.

Discussion

Very severe aplastic anaemia is considered a haematological emergency. Patients with aplastic anaemia with ANC <200/ cumm fall under this category. In addition to bleeding and weakness, the severe neutropenia makes them extremely vulnerable to life-threatening infections, both bacterial and fungal. Other than allogeneic stem cell transplant, the only other treatment modality is ATG but the response rate is dismal at 10-15%. Also, the response can take upto 3 months and in our country patients usually succumb to infections in this period.

Outcomes with the allogeneic transplant are excellent with over 80% long-term survival. Early transplantation is key to success. Delay in identifying a suitable donor often leaves patients with issues of allosensitization due to a large number of transfusions and fungal infections, which in turn increases transplant related morbidity and mortality.

In the case of our patient, the diagnosis was made early and HLA typing was done in an expedited fashion. The entire process from diagnosis to transplant took only 2 weeks. Early detection also limits the cost of the entire transplant process by eliminating the need for ATG and prolonged antifungals. Thus patients with pancytopenia should be evaluated early to identify the need for bone marrow examination to make the correct diagnosis and institute appropriate therapy as soon as possible.

Procedure for Blocked BT Shunt

Dr. Rajesh Sharma - M.Ch. (Cardiac Surgery)
Director, Dept. of Paediatric CTVS

Dr. B. L. Agarwal - MD, DM (Cardiology)
Director, Dept. of Paediatric CTVS

Dr. Ashutosh Marwah - MD (Paeds)
Associate Director, Dept. of Paediatric Cardiology

Dr. Junaid - DA
Associate Consultant, Dept. of Cardiac & Transplant Anaesthesia

A large number of children with reduced pulmonary blood flow require systemic to pulmonary artery shunt implantation as the first measure for getting a multistage repair done. Modified Blalock-Taussig shunt, in which a PTFE graft is placed between a subclavian artery and pulmonary artery is often the procedure of choice in small babies. Shunt occlusion is one of the most dreaded complications, which requires urgent therapy.

The patient often presents with acute deterioration with a sudden increase in cyanosis, systemic hypoxia and metabolic acidosis of various degrees. If left untreated, the condition is often fatal.

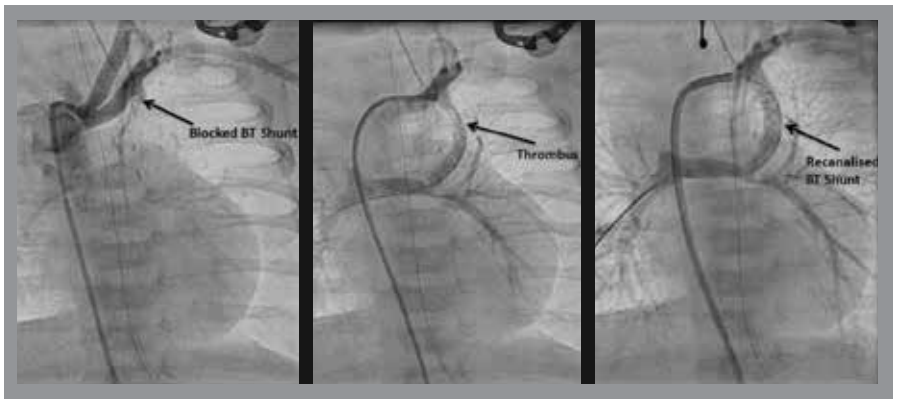
Conventionally the condition has been treated surgically, either by implanting a new shunt or by removing the thrombus from the freshly occluded shunts. This increases the hospital stay and morbidity in the case of already compromised patient.

Currently, interventional cardiology – balloon angioplasty with or without stent implantation and/or fibrinolytic therapy has been used in the treatment of children with stent thrombosis. We present one such case of a 3-month-old child with univentricular physiology who presented with acute shunt thrombosis and deterioration.

Case Report

A 3-month-old child weighing 4.5kg with univentricular physiology-pulmonary atresia and tiny PDA underwent left modified BT shunt using 3.5mm PTFE graft in our unit. The patient was discharged after 7 days of uneventful hospital stay. At the time of discharge, BT shunt was patent and patient had oxygen saturation of 84% on room air. The patient was presented with a sudden increase in cyanosis and irritability on the 3rd day of discharge. She was severely hypoxic at the time of admission. Blood investigation revealed severe hypoxemia and metabolic acidosis. An echocardiogram done at the time of admission revealed a blocked BT shunt. She was supported with IPPV and inotropes. A bolus dose of heparin 100u/kg was given intravenously followed by a continuous infusion of 20u/kg/hr. Shunt flow was still absent after 4 hours of heparin infusion. However, there was a significant improvement in metabolic acidosis on blood gas analysis.

The patient was taken for emergency shunt angioplasty, after discussing with the patient's parents. The initial angiogram revealed complete occlusion of the BT shunt (Fig.1). The shunt was then crossed with a 0.035 inch terumo guidewire and a 3.5mm x 2cm coronary balloon was used to perform angioplasty on the blocked BT shunt. Repeat angiogram revealed partial recanalization of the shunt with multiple clots inside the lumen (Fig.2). Repeat angioplasty did not make any difference hence we decided to implant a 3.5mm x 18mm coronary stent inside the shunt lumen.



A good flow could be seen after stent implantation (Fig.3) with a simultaneous improvement in systemic hypoxemia. Thrombolytic therapy was not given in view of recent cardiac surgery. The patient was discharged after 3 days of hospitalization on Aspirin and Clopidogrel.

Discussion

Modified BT shunts are performed in children with complex cyanotic heart disease and reduced pulmonary blood flow as a part of the staged repair. The diameter of shunt depends upon patient's age, body weight and size of pulmonary arteries. A small size shunt in presence of small pulmonary artery size and polycythemia are risk factors for shunt occlusion. The risk of shunt occlusion in published literature has been estimated between 3-20%. The usual case of shunt occlusion involves acute thrombosis of the shunt with or without focal narrowing at the origin or insertion of the graft. The shunt occlusion is often catastrophic and carries high mortality without treatment. Successful early recanalization is possible with the use of balloon angioplasty with or without stent implantation in combination with fibrinolytic therapy.

Emergency Intervention for a complex Cyanotic CHD



Dr. Rajesh Sharma - M.Ch. (Cardiac Surgery)
Director, Dept. of Paediatric CTVS
Dr. Vishal K. Singh - MD, DNB (Paeds)
Associate Director, Dept. of Paediatric Cardiac Critical Care
Dr. Ashutosh Marwah - MD (Paeds)
Associate Director, Dept. of Paediatric Cardiology

B/O Nidhi/17 days /male neonate weight 2.6 kg was referred from a hospital in rural Rajasthan to Jaypee Hospital with severe cyanosis, difficulty in feeding and respiratory distress on oxygen therapy with a tentative diagnosis of obstructed supra cardiac Total Anomalous Pulmonary Venous Connection (TAPVC), done at a tertiary care facility in Jaipur. TAPVC is a disease in which the entire oxygenated blood (pure) mixes with the deoxygenated blood on the right side of the heart due to abnormal drainage of the pulmonary veins in Superior Vena Cava (SVC). The patient survived due to the presence of atrial communication. Due to the complexity involved the patient was referred to our institute with severe respiratory distress. While the neonate was being stabilised, he had a Pulmonary Artery Hypertensive (PAH) crisis with gasping and was resuscitated, requiring ventilation and on high inotropic supports . A 2D echo with colour doppler revealed the diagnosis as an obstructed supra cardiac TAPVC and the patient was taken for an emergency TAPVC repair next morning. The surgical procedure involved rerouting of the pulmonary veins to LA with atrial septal defect closure and PDA ligation.

The patient was shifted to the paediatric cardiac intensive care unit with open sternum due to borderline haemodynamics and an immediate postoperative 2D echocardiography with colour doppler revealed biventricular dysfunction with moderate PAH. The baby was optimised with a balance of afterload reduction and inotropy, as these patients do not handle volume well, due to a small LV. Over the next 24 hours, once the haemodynamics improved, the chest was closed towards the end of POD 1. Post chest closure, the patient again had fluctuating haemodynamics and recurrent desaturation mimicking PAH crisis and was managed with a balance of ventilation, inotropy and pulmonary vasodilators. The baby also manifested features of early onset sepsis in the immediate postoperative period with leukopenia, severe thrombocyte penia and deranged sepsis markers. The antimicrobials were upgraded and based on the positive blood culture for an XDR pseudomonas aeruginosa, the antibiotics were further modified to Colistimethate sodium. In the current background with severe immunosuppression, the patient was also started on IV Pentaglobin to augment patient immune response. Due to sepsis and PAH issues, the patient had prolonged ventilation (more than 2 weeks) and the patient underwent a tracheostomy to facilitate ventilator weaning on the 15th POD.

The baby was also gradually escalated on nutrition and Nasogastric feeds were gradually built up to deliver 100-125 kcal/kg/day with 3 grams/kg/day of protein. The patient was gradually weaned to oxygen and subsequently decannulated on the 23rd POD, on Nasal Continuous positive airway pressure, which was removed 3 days later and the child was shifted to the ward.

In the ward, the oxygen was discontinued gradually and the transition was made to partial oral feeds and on the 30th POD, the patient was discharged from the hospital with oxygen saturation> 90% on complete oral feeds . The pre-discharge echo analysis revealed good biventricular function, with unobstructed pulmonary venous drainage to the left atrium and normal pulmonary artery pressures.

We share this case scenario to highlight the complexity involved in paediatric cardiac care and how each referring physician is an equally important part of the management wheel, because preoperative stabilisation and optimal transfer would encourage better outcomes. We were lucky this patient reached us in time because a few minutes delay would mean a salvageable patient would have become a victim of poor transfer strategy.

Recurrent Stent Thrombosis: A Mystery

Dr. Sanjiv Bhardwaj - MD, DM (Cardiology)
Associate Director, Dept. of Interventional Cardiology
Dr. Mithilesh Kumar - DNB (Cardiology)
Attending Consultant, Dept. of Interventional Cardiology

Stent Thrombosis (ST) is one of the most feared complications that occur in Percutaneous Coronary Interventions (PCIs) with stents. It presents as an acute MI in more than 80% of patients and results in death within 30 days in 10% to 25% of patients. Various factors have been attributed to the development of ST and the treatment is almost always emergent repeat PCI. Moreover, approximately 20% of the patients with a first stent thrombosis experience a recurrent stent thrombosis episode within 2 years. The case below is a patient suffering from recurrent subacute STs after recurrent PCIs. The patient was treated by coronary artery bypass graft

Case Report

A 39-year-old male hypertensive diabetic patient suffered NSTEMI on 26.09.2016. CAG (Coronary Angiography) was done at a peripheral hospital, which showed a subtotal LAD artery occlusion. PTCA to stent to proximal LAD was done with Xience V stent and the patient was discharged on 28.09.2016 after stabilisation. The patient developed acute onset chest pain again on 30.09.2016. He was re-admitted to the same hospital and a CAG was done, which showed sub-acute stent thrombosis.

PTCA + stent to LAD was done and another stent overlapped. During the post procedure period, patient again developed retrosternal chest pain and he was brought to Jaypee Hospital for further management. The patient was admitted and taken for Coronary Angiography, which revealed sub-acute stent thrombosis (LAD stent 100% total occlusion and 95% lesion in large D1 with slow flow and large thrombus burden). ECG revealed ST segment elevation in leads V2- V5. His troponin I was raised. The patient was taken up for high-risk angioplasty with IABP standby. PTCA/POBA to LAD was done using Sapphire Balloon 2.5 x 15mm at 10 atm along with a GPIIb/IIIa inhibitor (abciximab). Thrombosuction was done with 6F thrombuster. TIMI III flow was achieved in LAD but large thrombus burden was still present in the first diagonal. He was kept on a GPIIb/IIIa inhibitor (abciximab) infusion. Post procedure, ECG showed a decrease in ST segment elevation. Subsequently, he had an episode of ventricular tachycardia, DC Cardioversion was done and further stabilisation was done with ionotropic support, IV Cordarone, antiplatelets and other supportive management. 2D Echo revealed RWMA in LAD territory with LVEF 30-35%. CAG done on 08.10.2016, showed proximal 100% instant occlusion (SAT in proximal stent), Distal LAD was filling retrogradely by type II collaterals of RCA and LCX. The patient was asymptomatic and finally CABG was advised. Also simultaneously the patient was also investigated for coagulation disorders. The levels of protein C, protein S, factors V assay and lupus anticoagulant antibody were within the normal range. Subsequently, after a few days, the patient again had chest pain and a PET Scan revealed viability in LAD territory and subsequently patient underwent CABG.

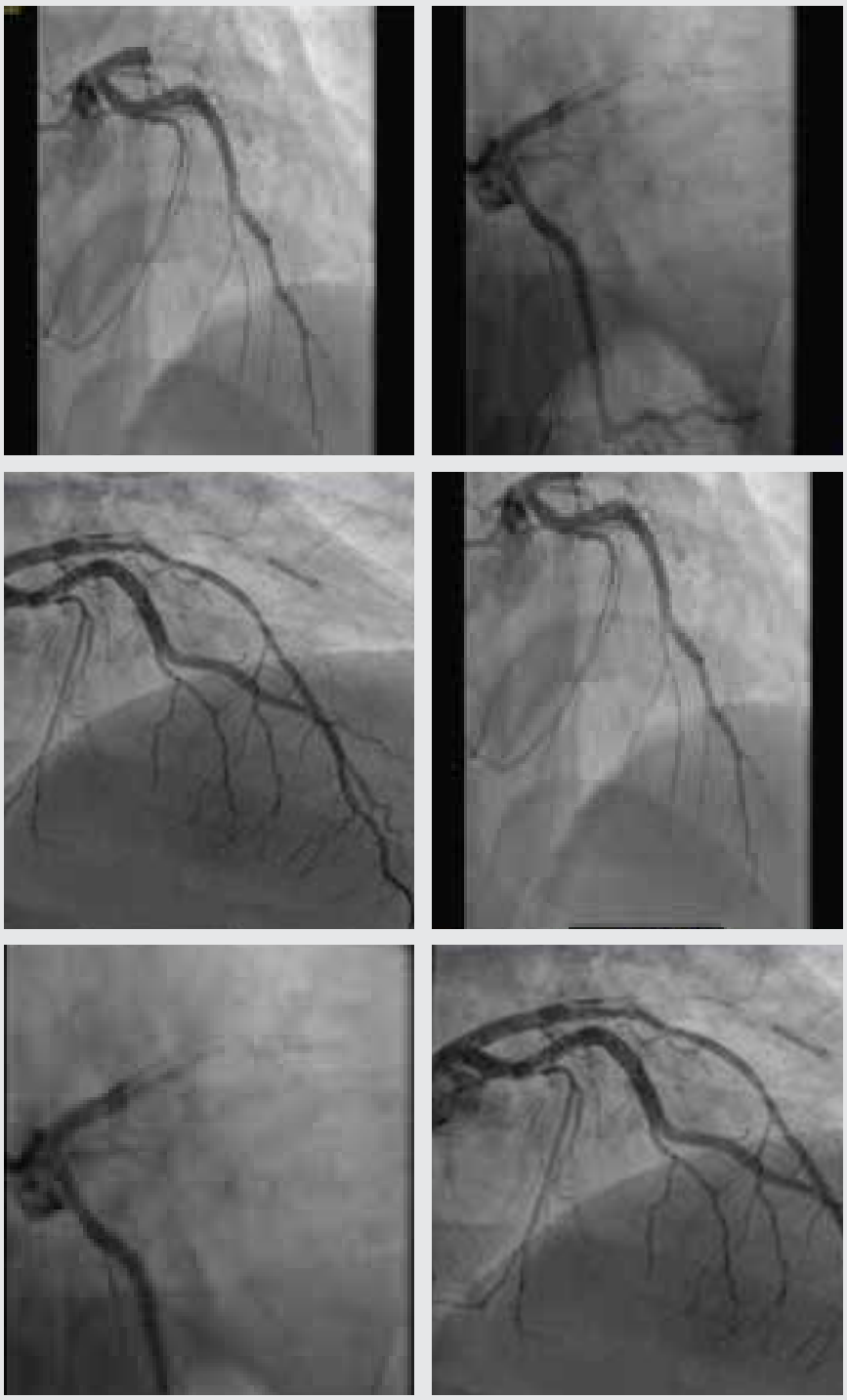
Discussion

We report this case just to draw more attention towards the clinical features, mechanisms and management of SAT in the DES era. ST was classified by the Academic Research Consortium (ARC) definition as definite, probable or possible and as acute (0 to 24 h), subacute (1 to 30 days), late (31 to 360 days) and very late (> 360 days). The incidence of SAT ranges between 0.6 & 4.4%. With the routine use of a high-pressure stent after dilation and dual antiplatelet therapy following stent implantation, the rate of stent thrombosis has declined to approximately <1% within the first year after stenting, although it can be higher in patients with STEMI or after complex PCI. Certain clinical, angiographic and procedural factors predispose to its development as shown in the table1.

Variables associated with Stent Thrombosis

Clinical Variables
Acute MI
Clopidogrel noncompliance and discontinuation
Clopidogrel bioavailability
Diabetes mellitus
Renal failure
Congestive heart failure
Previous brachytherapy
Anatomic Variables
Long lesions
Smaller vessels
Multivessel disease
Acute MI
Bifurcation lesions
Procedural Factors
Stent under-expansion
Incomplete wall apposition
Residual inflow and outflow disease
Margin dissections
Crush technique
Overlapping stent
Polymer materials

IVUS (Intravascular ultrasound) reveals causes of SAT-related with the help of procedures including stent under-expansion, malposition, inflow/outflow disease, dissection, thrombus, and tissue prolapse. These findings confirmed that the mechanisms underlying SAT were mechanical and potentially treatable when identified. DAPT (Dual Antiplatelet Therapy) with aspirin and a thienopyridine, most commonly clopidogrel, is generally recommended after stent implantation to mitigate the risk of ST. Recent studies have shown that adequate antiplatelet effects are not achieved in 5-45% of the patients taking aspirin and in 4-30% of patients taking clopidogrel (hyporesponsiveness). Currently however, routine screening for antiplatelet hyporesponsive remains a persistent, unresolved issue and further evidence is necessary before it can be recommended for testing as a part of a standard assessment of PCI candidates. The treatment of antiplatelet hyporesponse is as yet undefined. Several therapeutic approaches (increased dosage of clopidogrel and aspirin, switch over to Prasugrel or Ticagrelor, the addition of cilostazol or a glycoprotein IIb/IIIa inhibitor, etc.) might be prescribed. In our patient, all the above procedures were tried, but SAT occurred recurrently. Since we did not perform an Intravascular Ultrasound (IVUS) of the coronary arteries, we were unable to determine the factors associated with ST, including stent malposition, etc.



Strategies to minimize the occurrence of Stent Thrombosis

Patient selection
Screening for likely adherence to prescribed medical regimens (including the ability to afford dual antiplatelet therapy)
Careful screening for bleeding risk (or ability to tolerate dual antiplatelet therapy)
Confirmation of no upcoming surgical procedures in the recent future (6 wk for BMS, 6–12 mo for DES)
Stent selection and deployment
Consider use of stents with proven lower stent thrombosis rates
Appropriate vessel sizing
High-pressure stent deployment and post-dilation
Ensuring absence of edge dissections
Ensuring adequate inflow and outflow
Avoiding the use of 2 stents in bifurcation lesions (if possible)
Peri- and post-procedure care
Use of more potent oral antiplatelet regimens (eg, prasugrel, ticagrelor) in appropriately indicated clinical scenarios such as acute coronary syndromes in patients with acceptable bleeding risk
Patient education and clinical follow-up emphasising the importance of adherence to prescribed dual antiplatelet therapy
Continuation of dual antiplatelet therapy without interruption whenever possible if a dental, endoscopic, or surgical procedure is necessary (which is feasible for most surgeries other than neurovascular)

Conclusion

Recurrent STs appear to occur due to multiple causes. Emergency CABG is an effective method for managing recurrent STs.

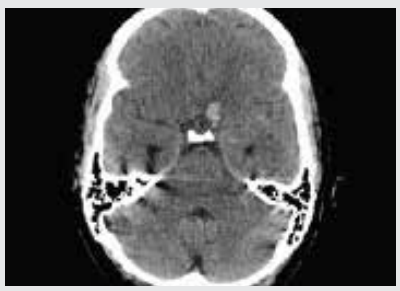
Endovascular Treatment in Subarachnoid haemorrhage with Complex Intracranial aneurysm



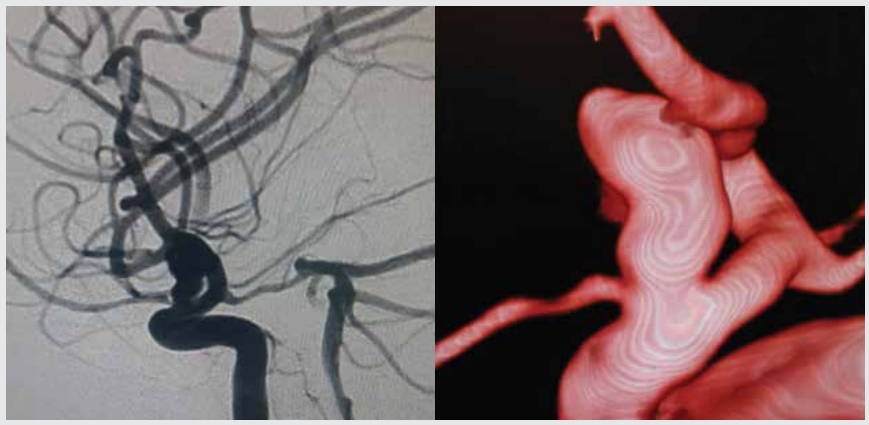
Dr. Chandra Prakash Singh Chauhan - MD (Radiology)
Associate Director, Dept. of Radiology
Dr. Dhirendra Pratap Singh Yadav - MD (Radiology)
Consultant, Dept. of Radiology
Dr. Anshul Jain - MD, DM (Neurointerventional Radiology)
Associate Consultant, Dept. of Interventional Radiology

Case Report

A 34-year-old female patient was admitted and was presented with sudden loss of consciousness, severe headache and vomiting on 27.08.2016. CT scan was suggestive of left basic frontal haematoma with diffuse subarachnoid haemorrhage. The patient was given preliminary treatment at Gwalior and was referred to Jaypee Hospital for further evaluation and management. On examination the patient was conscious, oriented, afebrile, GCS=E4M6V5, pupils bilateral equal and reacting to light, Hunt and Hess grade 1, WFNS grade 1. No focal neurological deficit was present. Digital subtraction cerebral angiogram with 3D Rotational Angiography was done (29.08.2016) which revealed wide neck left ICA an ophthalmic aneurysm measuring 6.9 X 3.6 mm with neck 4.1 mm



CT showed left basifrontal hematoma with subarachnoid haemorrhage



3D Rotational angiogram shows left ophthalmic aneurysm with ophthalmic artery arising from its neck

(dome/neck ratio 1.5:1). The left ophthalmic artery was arising from the aneurysm.

Due to the challenging wide-neck morphology of the aneurysm, in view of the risks involved in open surgery after discussion with patient relatives, the decision was taken for endovascular coiling of the aneurysm with overinflation balloon-assisted coiling technique for ophthalmic artery preservation.

Procedure

Endovascular coiling was done in the state-of-the-art Philips FD20 Clarity Hybrid-DSA LAB. The patient was taken to the Interventional Radiology (IR) suite. The procedure was done under GA. The right femoral artery access was taken with femoral sheath (6F). A 3D rotational angiogram was done for the aneurysm neck and ophthalmic artery profiling. The "Balloon-assisted" technique was done, whereby coils through low profile microcatheter (Vasco 10) were placed within the aneurysm with compliant balloon (Copernic 6x 20, Balt, Montgomery France) overinflation to protect coil herniation into ICA and to protect the ophthalmic artery. Initially, 3D 6X20 framing barricade coil was placed to form a stable basket followed by the placement of complex ultrasoft 3D coils to fill the residual sac. The procedure was completed with no complications and post procedure

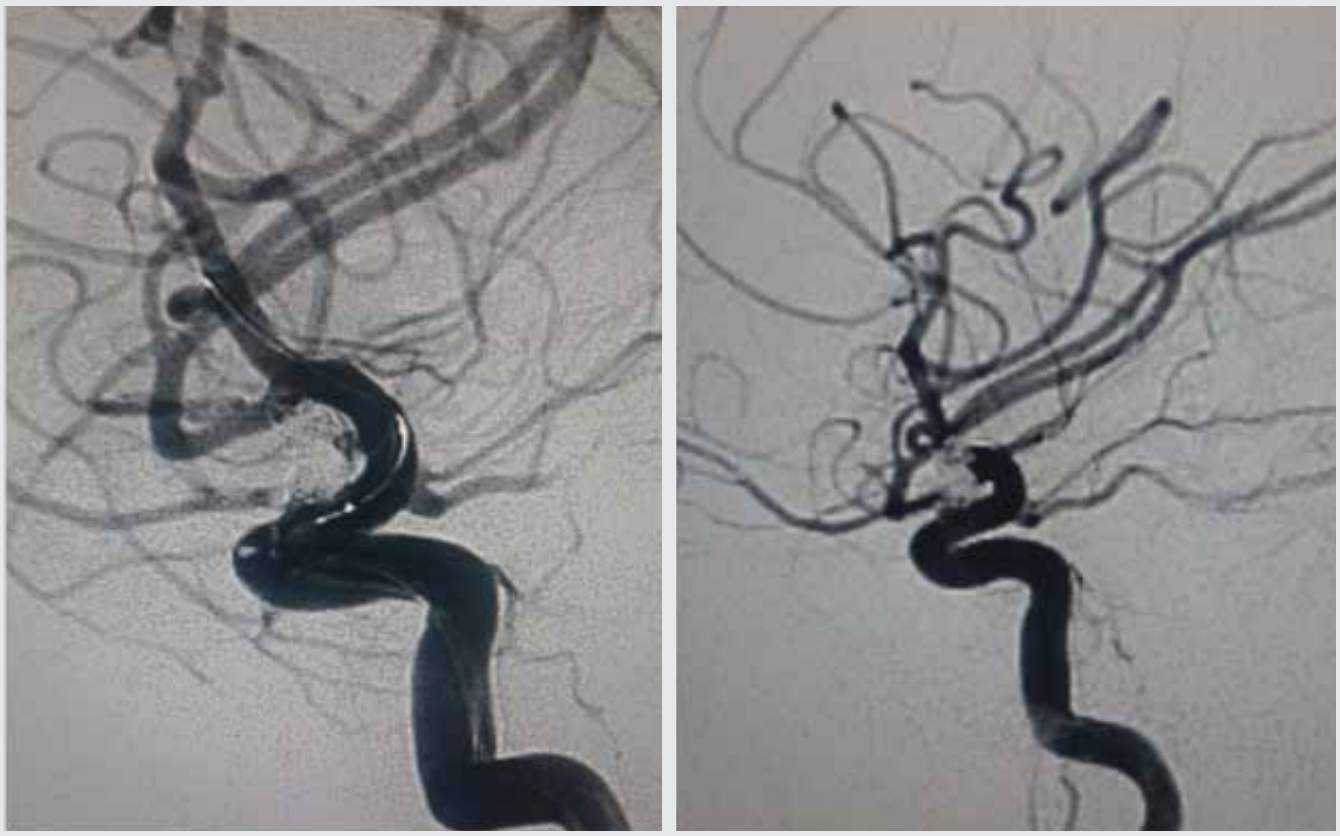
angiography showed complete exclusion of the aneurysm along with the preservation of the ophthalmic artery. The patient was extubated and was shifted to MICU after the procedure. Post procedure, vision of both the eyes was preserved. She was then medically managed and kept in close monitoring for any development of vasospasm/hydrocephalus. No vision blurring/visual complaints occurred. She was discharged on the 14th day of the post-procedure with no deficits.

Ophthalmic Artery Aneurysms (OAS) is challenging, given their proximity to the optic apparatus, anterior clinoid process and cavernous sinus. With the development of neuro-interventional techniques of stent assistance and balloon remodelling techniques, endovascular treatment (EVT) for OSAs has become a first treatment option. Unfavourable aneurysmal configurations, in which the ophthalmic artery is originating from the

herniation into the parent artery.

Conclusion

Subarachnoid Haemorrhage (SAH) secondary to rupture of a cerebral aneurysm is a life-threatening medical emergency that requires immediate treatment once it has been diagnosed. The endovascular aneurysm coiling with a remodelling balloon can be safely and very effectively used to treat ruptured aneurysms in a minimally invasive manner.

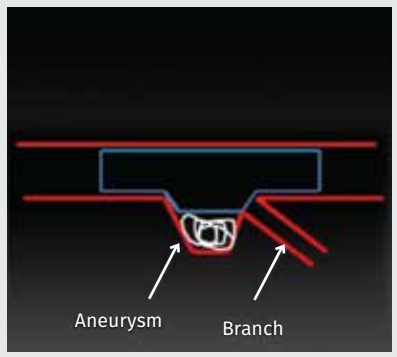


Post coiling angiogram showed left complete aneurysm occlusion with preserved ophthalmic artery

Discussion

In the subarachnoid haemorrhage, microsurgical clipping had been the historical method of choice for treating ruptured cerebral aneurysms until the publication of ISAT (International Subarachnoid Aneurysm Trial), which favoured endovascular coil occlusion with less morbidity and mortality. Despite considerable progress in microsurgical techniques, surgical treatment of ICA

aneurysm, the risk of impaired vision due to unexpected occlusion of the OA after coiling is still a major concern. Traditionally the origin of the artery from an aneurysm was considered relative contraindication for endovascular aneurysm coiling; however balloon assistance with overinflation can be used for artery preservation allowing safe aneurysm occlusion as shown in our case. Also, it has safely allowed us to complete and exclude the wide neck aneurysm without coil



Balloon overinflation technique

Complex Suprasphincteric Fistula-in-Ano

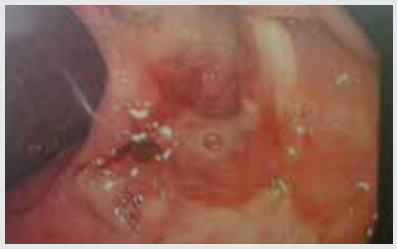
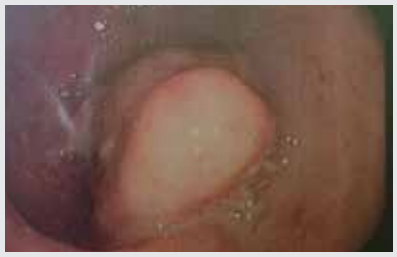


Dr. Rajesh Kapoor - M.Ch. (Surgical Gastroenterology)
Director, Institute of Gastrointestinal & Hepatobiliary Sciences
Dr. Dipankar Mitra - DNB (General Surgery), DNB (GI Surgery)
Associate Consultant, Institute of Gastrointestinal & Hepatobiliary Sciences
Dr. Amit Jain - M.Ch. (Surgical Gastroenterology)
Associate Consultant, Institute of Gastrointestinal & Hepatobiliary Sciences

The majority of fistula-in-ano result from infection of the anal cryptoglandular complex, but the complex, recurrent, and/or non-healing variety of fistulas should always raise the suspicion of a chronic underlying condition. Complex anal fistulae are those with tracks extending above the level of the dentate line (mid-anal canal), multiple tracks, anovaginal fistulae and fistulae associated with Crohn's disease. The Parks Classification relates the type of fistula to the external anal sphincter/puborectalis complex & is divided into Inter-sphincteric, Trans-sphincteric, Supra-sphincteric and Extrasphincteric. The Principles in Management include addressing the internal opening and anal gland of origin, preservation of the external anal sphincter and drainage of the external component. In this paper, we present a 22-year-old Yemeni gentleman who has a chronic fistula-in-ano since 2 years following a shrapnel injury to the mid-rectum.

Case Report

This Yemeni gentleman sustained shrapnel injury from a bomb blast in May 2014 and received multiple injuries namely Rectal wall injury at mid-rectum, bladder trigone injury, pelvic fracture with Left sciatic nerve injury. He had undergone multiple surgeries initially with Hartmann's colostomy and bladder injury repair. Following that he had Hartmann's

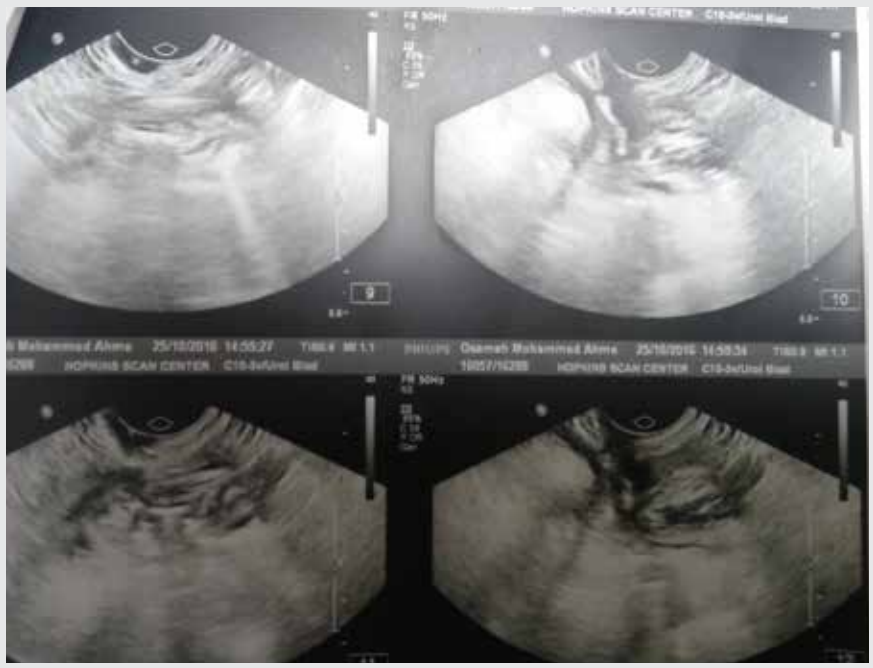
colostomy reversal and another surgery with colostomy as fistula was not healed and was discharging stool following hartmann's closure. He had also undergone suprapubic catherization and bilateral nephrostomies as he had a urine leak from the ureteric repair site.

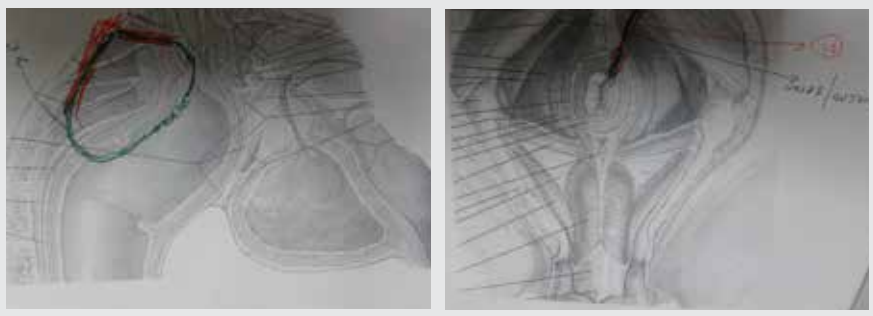
He had visited multiple hospitals in Bangalore and Delhi where he had undergone sonofistulography and CT abdomen as he had multiple shrapnel in the pelvis. In Bangalore, he had undergone examination under anaesthesia where he was found to have a lower rectal ulcer at the 8'o clock position. Thick green thread was found embedded in the ulcer likely to be a seton placed in an earlier operation. Rectal biopsy was taken which came out to be benign in nature.

Sonofistulogram found a fistulous tract along the posterior aspect of the anal canal, internal opening at the 7'o clock position in the middle third of the anal canal, tract passing through the intersphincteric groove in the 7'o clock direction towards the external opening. Evidence of thread or seton passing through the fistulous tract. The patient presented to us with a discharging fistula posterior to the anal opening, the internal opening is at 8'o clock position approximately 4cm above the anal verge. We get a CECT abdomen with rectal contrast which showed focal perforation and collection with a fistulous tract extending from the 8'o clock position of the rectum upto the external opening on the right side of the superior part of gluteal cleft. Urology reference was taken in view of an overdistended urinary bladder and a mild bilateral hydronephrosis which was diagnosed as a functional deformity of the urinary bladder.

A Sigmoidoscopy was done which confirmed diversion colitis, inflammatory rectal polyp at the closed rectal end and a perforation with thread pouting out from the opening.

With the above findings, we planned a surgery in which the diseased rectum was removed till the distal rectum (below the perforated rectal area at the level of levator ani muscle) with colostomy was dismantled and the splenic flexure was mobilized. The descending colon was brought down through the anal canal and coloanal anastomosis was done along with a diverting loop ileostomy. With the above procedure, the fistula healed completely and he was planned for ileostomy closure after 3 months.





Discussion

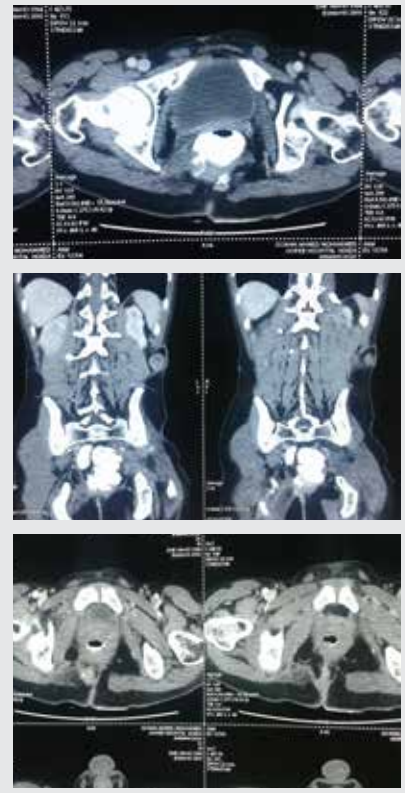
Fistula-in-ano is a granulating tract between the anorectum and the perianal region or perineum. A typical fistula may consist of a tract, a primary (internal) opening and a secondary (external) opening. It is characterized by a frequent discharge through the external opening. In the presented case, the CECT abdomen of the patient delineated the suprasphincteric type of fistula. The fistulous tract which was connected to the rectum through a perirectal collection. It seems that the fistulous tract is unlikely to heal in the presence of a large rectal perforation as well as the perirectal collection.

While 90% of fistulas-in-ano are cryptoglandular in origin, specific infections such as tuberculosis, actinomycosis, lymphogranuloma venereum, Crohn's disease, ulcerative colitis, trauma, foreign bodies, malignant tumors of the rectum, prostate, bladder, uterus or anus, Hodgkin's disease, leukemia and postradiotherapy have also been recognized as etiological factors.

In order to maintain anal continence, we performed sphincter preserving proctectomy till the levator ani muscle below the perforated rectal area. The fistulous tract was completely disconnected from the rectum. During the post-operative period, complete resolution of the fistula, without any compromise of sphincter function or any further discharge were observed.

Conclusion

Complex, recurrent or non-healing perianal fistula should always raise the suspicion of a chronic underlying condition. Rectal perforation with perirectal collection, although very rare, should be considered especially in patients with a history of injury. Past medical history and physical examination of the patients with complex fistula-in-ano should be carefully obtained so as not to misdiagnose this rare etiology.



Endometriosis & Infertility: Twin pregnancy achieved through Laparoscopic Surgery & IVF

Dr. Jyoti Mishra - MD (Obs & Gyn)
Associate Director, Dept. of Obstetrics & Gynaecology

Endometriosis is a debilitating disease that affects women of the reproductive age group. It causes severe menstrual pain and infertility & has an overall incidence of 6 to 10%. The incidence in infertile women is 25 to 50%. The woman is a pivot of the family & severe monthly pain not only compromises her own life but also brings the entire family to a halt due to her monthly suffering.

Introduction

In endometriosis, the inner lining of the uterus called endometrium is spilt into the peritoneal cavity and other adjacent organs like ovary, rectum & urinary bladder. With every menstrual cycle, this ectopic tissue bleeds, leading to severe pain & scarring. In the ovaries, cysts are known as endometriomas or “chocolate cysts”. With every passing year, a patient suffering from the ailment tends to develop severe adhesions leading to chronic pelvic pain & infertility.

The cause of endometriosis is not known, although it often runs in families. The disease is Oestrogen dependent and tends to recur even after surgical removal. The spontaneous cure is achieved after menopause. Numerous biochemical and immunological changes have been identified in association with the disease.

Diagnosis of endometriosis may be done based on symptoms. But the only way to definitively diagnose it is with direct visualization of the implants through laparoscopy and tissue biopsy.

Case Report

We present the case of Mrs SB, a 26-year-old lady, who approached us with severe menstrual pain & infertility of 4 years duration. Her ultrasound report showed bilateral chocolate cysts in the ovaries. She was posted for hystero-laparoscopy. On hysteroscopy, her uterine cavity was found normal. On laparoscopy, she had dense bowel adhesions obliterating the pouch of the Douglas. Both the ovaries had endometriotic cysts and were stuck to each other (kissing ovaries) & also to the uterus. Gentle adhesiolysis with utmost care was done. Both ovarian cysts were drained & cyst wall was excised. Tubal patency was found to be normal. All possible endometriotic implants were removed & near normal anatomy was achieved.

To prevent recurrence, the patient was given GnRH analogue depot injection for downregulation postoperatively. She was asked to try natural conception for two months, following which an Intra Uterine Insemination (IUI) was performed. As the patient failed to conceive, IVF with long protocol was done. She developed four embryos. Two embryos were transferred & the extras were frozen. Her first IVF cycle led to a biochemical pregnancy. In the next cycle, frozen embryos were transferred, which resulted in a twin pregnancy. A strong luteal support with progesterone was given to support the twin pregnancy. Currently, the patient is in her 5th month of pregnancy.

Discussion

Endometriosis has been described as "a benign disease even worse than cancer". It is a progressive, recurrent disease leading to severe monthly pain, largely compromising the quality of life. Infertility caused by endometriosis is also difficult to treat.

Surgery for endometriosis needs extreme competence from the surgeon, with a comprehensive multidisciplinary approach. Undercorrection of the disease may lead to early recurrence & overcorrection may damage the ovarian follicles, compromising her fertility. The patient should be counselled well, for high risk of complications due to densely adherent organs & about the risk of recurrence.

Pregnancy should be planned immediately after surgery. Depending on the severity of the disease, she may be allowed natural conception or IUI. The decision for IVF should not be delayed in these patients. However, young girls or those not keen on conception may be treated medically. The drawback is, medical treatment just suppresses the disease temporarily. Women who are not relieved by medicines & have completed their family, a definitive treatment as Total Laparoscopic Hysterectomy (TLH), may be offered.

With Minimally Invasive Surgery (MIS) such as laparoscopy and the latest developments in IVF techniques, it is possible to cure the disease, relieve the pain & fulfill the dream of motherhood of almost every woman suffering from endometriosis.

Chocolate cyst of ovary. Bowel adhesions.

Our endeavour towards quality (October - December 2016)

We at Jaypee Hospital, always aim to serve our clients with top notch quality of services. We have undertaken steps to monitor and improve the quality of services in various fields. Our team of doctors, nurses and administrative staff work to monitor the quality of services in different areas of the hospital.

The OPD foot fall has increased to 34,089 and the IPD bed occupancy increased to 56.52%, the average length of stay of patients being 3.42 days. We measure the patient satisfaction index every month and the same is monitored by the top management at Jaypee Hospital. Overall patient satisfaction index for the last three months has been 93%.

Our team of skilled surgeons has performed 1125 surgeries in the last three months with zero adverse events during administration of anaesthesia. Though number of surgeries has increased, we have strived to serve our clients on time with the surgery rescheduling rate at 4.18%.

We at Jaypee Hospital care for employees and train our health care workers on infection control and safe handling of sharp practices regularly. The needle stick injury rates have been restricted to 0.08.

Our diagnostic services play a key role in patient care and ensure to deliver the report within the committed time while the percent of TAT failures is less than 4% for laboratory services.

Our team of dieticians work towards the dietetic needs of the patient. They actively assess the nutritional needs of 99% of the patients within 24 hours of their admission.

We strive towards timely services for OPD consultation with an average waiting time of 25 minutes. We understand the criticality of the patients in our casualty and monitor the time taken for initial assessment; we have been able to complete initial assessments within 7 minutes.

In order to assess and maintain organizational standards, monitoring of various organizational indicators are done, such as the employee satisfaction index, percentage of medication errors and hospital acquired infection rate besides the International Patient safety goals monitoring. As a progression towards endeavouring continuous quality improvement and patient safety, our hospital is gearing up for the JCI (Joint Commission International), which is an international accreditation for hospitals.

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

JAYPEE HOSPITAL
LIFE FIRST

CENTRES OF EXCELLENCE

- Institute Of Heart
- Institute Of Oncology
- Institute Of Organ Transplant
- Institute Of Orthopaedics And Spine
- Institute Of Minimally Invasive Surgery
- Institute Of Gastrointestinal And Hepatobiliary Sciences
- Institute Of Neurosciences
- Institute Of Renal Diseases
- Institute Of Aesthetic And Reconstructive Surgery
- Institute Of Mother And Child
- Department of Haematology and Bone Marrow Transplant
- 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
- Department of Radiology
- Department of Laboratory Medicine
- Department of Transfusion Medicine
- Department of Nuclear Medicine
- Department of Sports Medicine & Rehabilitation
- Department of Dental Surgery
- Department of Behavioural Sciences

Jaypee Hospital, Sector 128, Noida 201304, UP, India

0120 412 2222 | www.jaypeehealthcare.com | Follow us