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IMPACT

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INSIGHT OF SUCCESS STORIES

EDITORIAL DESK

Dear all readers,
Greetings from Medicover Hospitals

Dr. Sharath Reddy
Executive Director
Medicover Hospitals, India

Medicover Hospitals, being one of the largest Multispecialty Hospital Chain in India has created a greater impact in the field of Healthcare by providing quality care focusing on Patient-Centric Approach. We at Medicover always strive to provide effective, timely, and safe Care to all the Patients who visit our facilities across India. At Medicover, we always adopt innovation & automation which have paved way the in healthcare providing newer technologies that support with precise diagnosis and newer treatment options Involving AI & Robotics. We have state-of-the-art technology which will cater to our patient needs which in turn result in better patient outcome and increased quality of life. We'll continue to put all our efforts, working closely to provide safe, high-quality medical care to everyone who visits. We look forward to your continued support.

Dr. Rakesh Prabhu
Chief Medical Officer
Medicover Hospitals, India

Medicover Hospitals offer the highest quality and safest care possible for our patients. The objective of our hospital is to implement safe, leading-edge care and to develop medical professionals who are motivated by the opportunity to improve the quality of patient care. At Medicover, we have taken major steps to build a system of care that ensures timely, accurate, safe and effective treatments. We have launched initiatives to promote the patient safety culture by eliminating untoward hazards like, hospital-acquired infections, falls and pressure ulcers. We observe reporting areas of concern within our system seriously and are committed to provide corrective & preventive actions in an expeditious manner. We'll continue to put all our efforts, working closely to provide safe, high-quality medical care to everyone who visits. We look forward to your continued support.

Dr. Sateesh Kumar Kailasam
Group Director - Emergency Medicine
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Sharing knowledge is the key to Community education. Medicover hospitals as a group would like to enlighten the healthcare professionals about the advanced technologies and current modalities of treatment in various patients at the same time interested in increasing the awareness in the common public about the same.This platform will help everyone to know the extraordinary work done by the experts at Medicover India . Wishing you all the best to all writers and readers .

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Bentall Procedure for Aortic Root Replacement

Medicover Hospials - Hi-tec City

Abstract

The Bentall procedure is a surgical repair of the ascending aortic or aortic root aneurysm in combination with aortic valve disease. A 39-year-old female patient came to the hospital with symptoms of Shortness of breath and Chest pain. The 2D echo showed a bicuspid aortic valve with severe aortic stenosis and regurgitation, and moderate mitral regurgitation with fair left ventricular function. A Computed tomography aortogram showed abnormal dilation of the proximal aorta suggestive of a type II-A aortic aneurysm extending from the aortic root to the origin of the innominate artery. The ascending aorta was huge in size with mild cardiomegaly. The aortic root, the annulus, and the Sino-tubular junction were dilated with a heavily calcified bicuspid aortic valve followed by calcification of the annulus with concentric left ventricular hypertrophy. The bicuspid aortic valve was excised after thorough decalcification; the valve and the aorta were sized accordingly. A 21mm mechanical valve and 22mm Dacron grafts were selected and both were sutured. The left coronary button was sutured to the conduit followed by the right coronary button. Bentall procedure was performed safely with the composite button technique as described in this report.

Case Report

Mrs. Savitha a 39-year-old female patient came to the hospital with the symptoms of shortness of breath and chest pain. The 2D echo shows a bicuspid aortic valve with severe aortic stenosis and severe aortic regurgitation, Moderate mitral regurgitation (MR) with fair left ventricular (LV) function. The patient was small-sized with a body surface area (BSA) of 1.1m2. A Computed tomography (CT) aortogram was done on suspicion of a dilated aorta and a bicuspid aortic valve on echo finding. Abnormal dilatation of the proximal aorta was suggestive of a type II-A aortic aneurysm extending from the aortic root to the origin of the innominate artery that is proximal to the arch of the aorta. Biochemical tests showed normal levels of CBP(Hb-11.8, WBC-10.900, Platelet Count-2.01/cumm),LFT(Total Bilirubin-0.6mg/dl,SGPT-21,SGOT-31),RFT (Urea-25, SR. Creatinine-0.7, TSH-2.15, PT with INR, and CTBT. Chest X-ray showed dilated ascending aortic shadow and normal CT ratio; ultrasound abdomen was normal; Carotid Doppler test showed mild diffuse atherosclerotic changes noted in all arteries which consist of a common carotid artery(CCA), internal carotid artery (ICA), external carotid artery (ECA).

Operative Findings

Moderate cardiomegaly and ascending aorta were huge in size. The aortic root, annulus and the Sino tubular junction were dilated, and the aortic valve was bicuspid and heavily calcified. There was calcification of the annulus with concentric Left ventricular hypertrophy (LVH).

Operative Procedure

Median sternotomy was performed, where the pericardium was opened, and the pericardial stay sutures were taken. After adequate heparinisation, cardiopulmonary bypass (CPB) was instituted through RA-Aortic cannulation (the aorta was cannulated just proximal to the origin of the innominate artery before the arch of the aorta). Heart arrested in diastole through selective ostial Del Nido cardioplegia. Then LV was vented through the right superior pulmonary vein (RSVP). Aorta was excised extending from the aortic root to the proximal arch. Aortic commissures and coronary Ostia were isolated and prepared. The bicuspid aortic valve was excised and after thorough decalcification, the valve and the aorta were sized and accordingly 21 mm mechanical valve and 22mm Dacron grafts were

selected and both of them were sutured together. Multiple pre-pledged 2-0 polypropylene sutures were taken around the aortic annulus and the valved conduit was seated through the parachute technique. The later conduit was sutured to the annulus with 5-0 prolene continuous sutures. The left coronary button was sutured to the conduit with 5-0 prolene continuous sutures followed by the right coronary button. After completing the proximal anastomosis and the coronary buttons, distal anastomosis of the bevelled conduit was performed onto the proximal end of the arch of the aorta using 5-0 prolene continuous sutures. After securing adequate hemostasis the patient was gradually weaned off by cardiopulmonary bypass (CPB) and heparin was reversed for the patient to decannulate. Mediastinal drains were placed, and the chest closed in layers with steel wires to the sternum and vicarly to other layers.

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A middle-aged man presenting with rapidly progressing loss of vision due to a rare medical condition

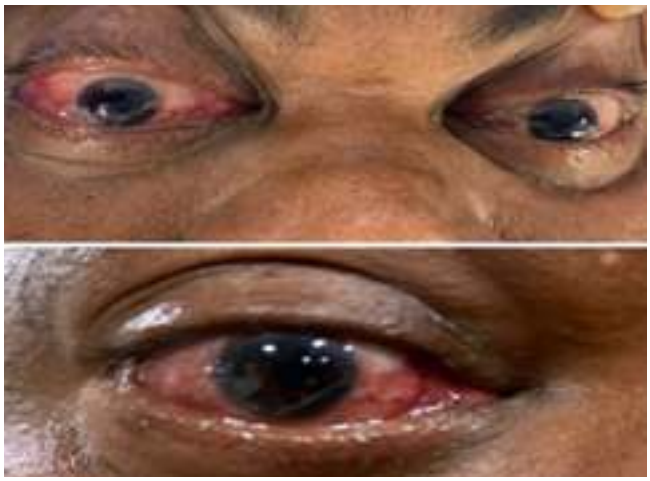
Medicover Hospials - Visakhapatnam

Abstract

TA carotid-cavernous fistula (CCF) results from an abnormal vascular shunt from the carotid artery to the venous channels of the cavernous sinus. The clinical features depend on the neurovascular structures involved in shunt anatomy, etiology, and hemodynamics of the CCF. We report a case of a 46-year-old man who had presented with headaches, redness, bulging, and rapidly diminishing vision of his right eye, accompanied by diplopia. A magnetic resonance imaging(MRI) of the brain revealed dilation of the superior ophthalmic vein. A subsequent digital subtraction angiogram revealed Barrow classification Type D (indirect) CCF. Endovascular therapy with combined coil and Onyx [composed of ethylene-vinyl alcohol copolymer and dimethyl-sulfoxide, mixed with micronized tantalum powder] embolization was performed to achieve an exceptional angiographic and clinical result. The patient was entirely symptom-free after two weeks of treatment.

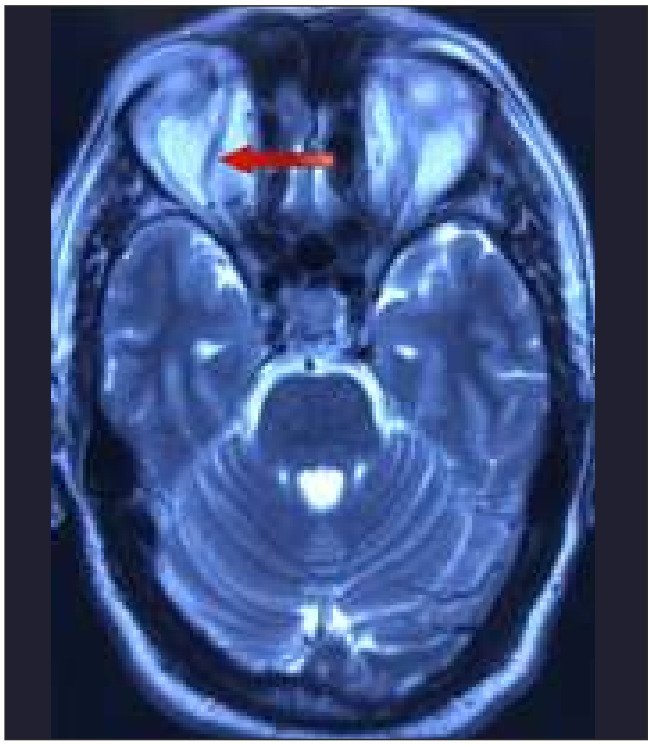
Case Report

A 46-year-old male patient with a known history of diabetes on regular treatment with good compliance and no lifestyle habits. There was no preceding history of head or faciomaxillary trauma. Three weeks before presentation, the patient noticed headaches and redness of the right eye for which he received eyedrops (antibiotic, steroid, and artificial tears) and analgesics from his local practitioner. Even after two weeks of treatment, there was no noticeable improvement in his initial complaints. Then suddenly, one week before the presentation, he developed bulging with rapidly reducing vision of the right eye and diplopia (Figure 1). The Patient was rushed to the nearby ophthalmologist and a detailed ocular examination was conducted.



The left eye examination revealed slight chemosis, conjunctival injection, 3mm pupil with intact light reflexes, and visual acuity of 6/24. Examination of the right eye revealed marked conjunctival injection and chemosis, pupillary size 3.5 mm, with intact direct and indirect light reflexes, non-axial proptosis with restriction of ocular movements, particularly abduction. Visual acuity was 6/60. Tono-Pen tonometry revealed raised intraocular pressure in the right eye.

Clinical image showing chemosis, conjunctival injection, and slight proptosis of the right eye. Fundoscopy demonstrated papilledema and retinal venous engorgement of the right eye. Based on the above clinical presentation and ocular findings, a presumptive diagnosis of a CCF was made. A magnetic resonance imaging (MRI) of the brain was ordered which revealed marked enlargement of the right superior ophthalmic vein (SOV) (Figure 2). The patient was then transferred to the department of neurovascular intervention for further management.



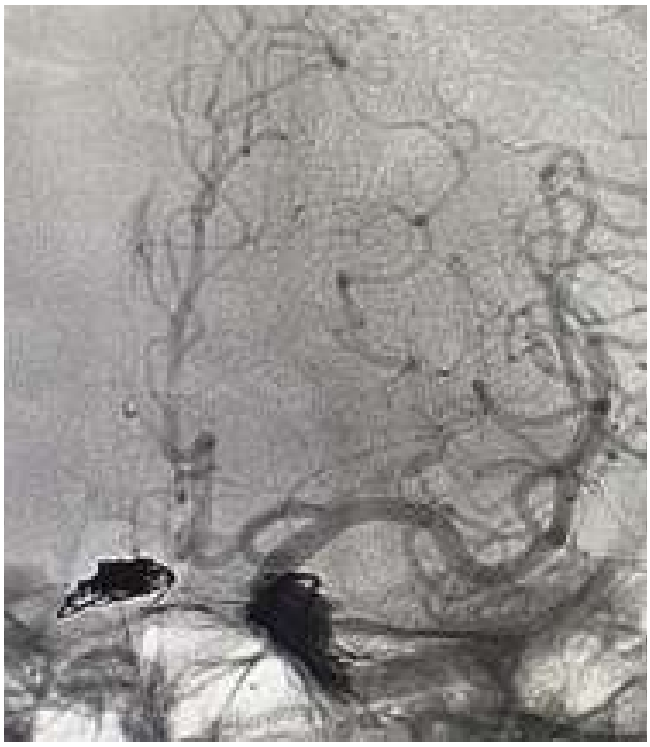
Brain MRI, axial view, demonstrating a dilated superior ophthalmic vein (red arrow).

A digital subtraction angiography (DSA) was performed that revealed a Type D CCF with an early filing of the right cavernous sinus in the arterial phase (Figure 3). Based on the rapidly deteriorating clinical picture, shunt anatomy, and hemodynamics a decision was taken to symbolize the CCF.

DSA cerebral angiogram revealing a CCF with an early filling of the right cavernous sinus in the arterial phase.

Procedure

The patient was placed supine on the angiographic table. The patient was intubated, and the procedure was performed under general anesthesia following strict aseptic protocol, and simultaneous right transfemoral venous and left transfemoral arterial access was taken. A 5F diagnostic catheter from the left groin puncture was placed at the common carotid artery and was navigated from the right transvenous groin access through the inferior vena cava, right atrium, superior vena cava, and the jugular vein. At the level of the jugular sigmoid junction, a microcatheter was maneuvered into the inferior petrosal sinus (IPS)leading to the CS. After cannulating the CS, an angiogram was performed to confirm the position of the microcatheter. Embolization was done with Onyx on the left side and coils on the right side of the CS (Figure 4).



DSA cerebral angiogram showing the placement of coils on the right side and Onyx embolization on the left side.

The final angiogram demonstrated occlusion of the CCF with arterial branches within the normal limits (Figure 5). The procedure was completed, and the patient was extubated without any new neurological deficit. A total of five coils and 2ml of Onyx were used to achieve complete embolization

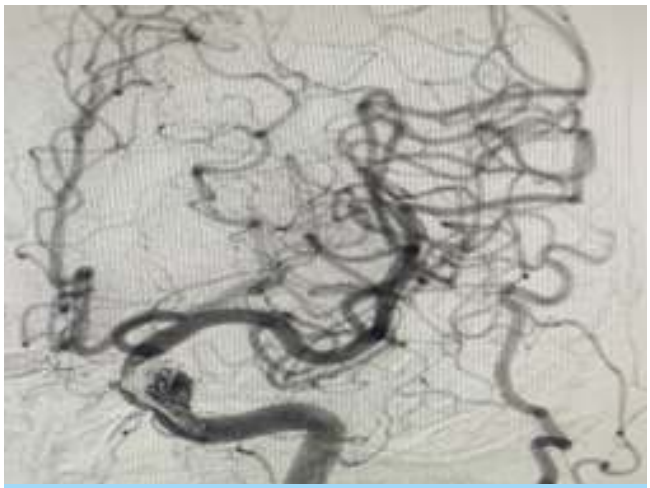
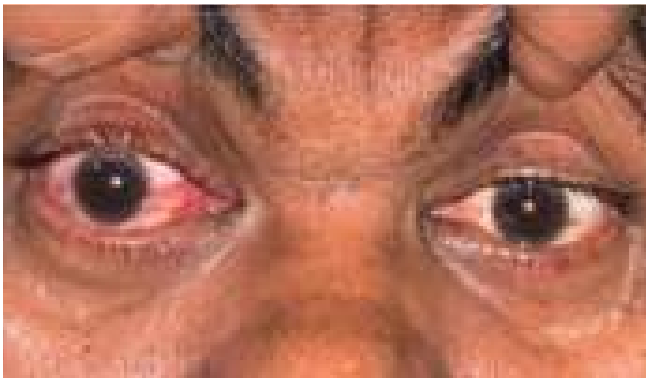


Figure 5

The final check angiogram demonstrating occlusion of the CCF with the normal arterial flow.

There was a significant improvement in the vision, diplopia, and redness in both eyes within 48 hours post-procedure (Figure 6). The patient was discharged on the third day postoperatively. At his second-week follow-up, the patient's ocular redness, proptosis, headaches, and visual disturbances had completely resolved.



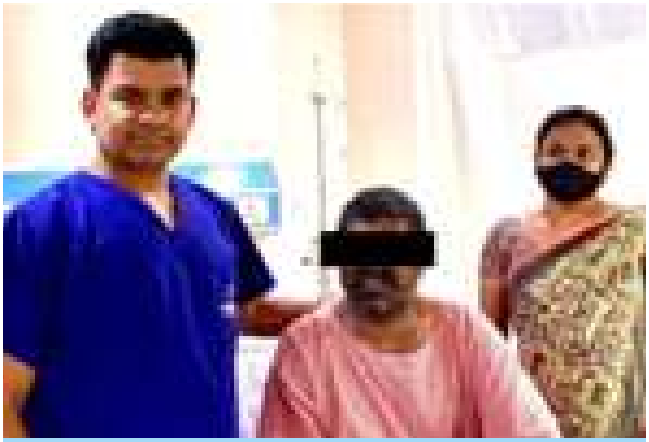


Figure 6

Clinical picture 48 hours postoperatively showing a noticeable reduction of the right eye redness within 48 hours post-procedure

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Central Airway Obstruction

Medicover Hospials - Kakinada

Abstract

Central airway obstruction refers to the obstruction of airflow in the trachea, and the main stem bronchi is a potentially life-threatening condition due to several malignant and non-malignant processes. A 38-year-old male came to our ER with symptoms of difficulty in breathing, cough, hemoptysis, difficulty in swallowing, and feeling of choking for 1 week. He had undergone surgery and radiation for squamous cell carcinoma 2 years ago. On examination, he had respiratory distress with inspiratory stridor. He was admitted to the intensive care unit and was started on non-invasive ventilation support, intravenous fluids, and other supportive care. After providing general anesthesia patient was directly incubated with a rigid bronchoscope (Novatech, Tracheoscopy 14 mm O.D, Novatech SA, La Ciotat, France). Under visualization showed extrinsic luminal compression and tumor invasion into the lumen causing total occlusion of the tracheal at mid-level. Mechanical debulking was done by coring with a rigid scope and the tumor was extracted piecemeal. Because of the extrinsic compression by the tumor, a self-expandable metallic stent (Otomed, fully covered, 16x 80 mm) was deployed using flexible bronchoscope guidance through a rigid scope. The patient's condition remained normal throughout the procedure and his end-tidal carbon dioxide (EtCO2) was normal after stenting. Check bronchoscopy showed a well-positioned and expanded metallic stent in situ. Stridor and respiratory distress were completely relieved. Because of the extensive tumor burden causing lymphedema and brachial plexus compression, he was advised palliative radiotherapy. He has been on follow-up for 2 months with improved quality of life post debulking and stenting.

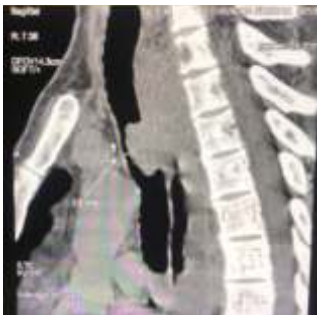
Case Report

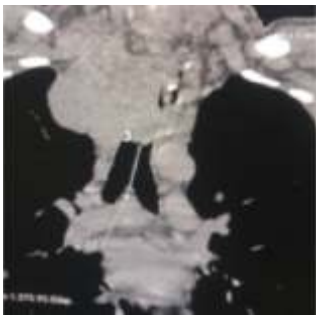
Here we present a case of central airway obstruction due to a tracheal tumor, managed successfully at Medicover Hospitals, Kakinada. A 38-year-old male came to our ER with symptoms of difficulty in breathing, cough, hemoptysis, difficulty in swallowing, and feeling of choking for one week. He had a history of squamous cell carcinoma esophagus for which he underwent surgery and radiation 2 years ago. He does not have any lifestyle habits. On examination, he has been in respiratory distress with inspiratory stridor. His general condition is poor, and his psychological condition is very low. His vitals at presentation were: blood pressure- 100/60, temperature- 99 F, respiratory rate- 28/min, oxygen saturation- 94% on room temperature, and pulse rate- 120/min. Immediate CT chest done showed upper mediastinal growth around the esophagus extending anteriorly causing near-complete occlusion of the tracheal lumen (>80). Arterial blood gas (ABG) showed respiratory alkalosis.

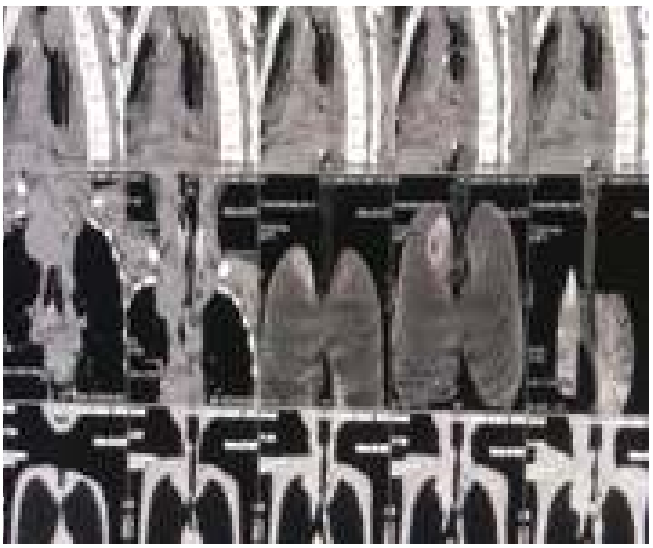
He was admitted to the intensive care unit and started on non-invasive ventilation support, intravenous fluids, and other supportive care. Given the advanced nature of the disease and bad prognostic signs, the family was counseled and clearly explained the patient's condition and expected outcome. An immediate multidisciplinary team discussion had been called for, including a surgical oncologist, cardiothoracic surgeon, radiation oncologist, medical oncologist, anesthetist, intensivist, and pulmonologist. The patient and his family decided to take an aggressive approach and opted not to leave any stone unturned. So, the option of immediate rigid bronchoscopy-guided debulking and stenting was decided.

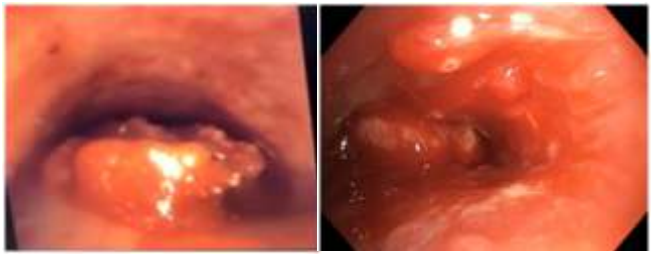
Procedure After providing general anesthesia, the patient's head was d positioned in a "sniffing" position, and intubation was done directly with a rigid

bronchoscope (Novatech, Tracheoscopy 14 mm O.D, Novatech SA, La Ciotat, France) under visualization. The trachea showed extrinsic luminal compression and tumor invasion into the lumen causing near-total occlusion of the trachea at mid-level. After injecting 1% adrenaline perilesional, mechanical debulking was done by scoring with rigid scope and tumor extracted piecemeal. Hemostasis was secured by the tamponade effect of tracheoscopy followed by electrocauterization of the tumor base. Near normal patency of tracheal lumen was achieved. Given extrinsic compression by the tumor, a self-expandable metallic stent (Otomed, fully covered, 16x 80 mm) was deployed using flexible bronchoscope guidance through the rigid scope. The patient's condition remained stable throughout the procedure and his EtCO2 normalized immediately after stenting. He was extubated on the table and maintained on oxygen support with nasal prongs. Check bronchoscopy done the next day showed a well-positioned and expanded metallic stent in situ. Stridor and respiratory distress were completely relieved and the patient went home walking on his own. Given extensive tumor burden causing lymphedema and brachial plexus compression, he was advised palliative radiotherapy. He has been under follow-up for 2 months with improved quality of life post debulking and stenting. 0063z









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Rescue TIPS

Medicover Hospials - Nashik

Abstract

A frequent complication in cirrhotic patients is variceal bleeding. The management of this type of bleeding can be done successfully with Rescue TIPS placement. We had a patient with chronic liver disease secondary to non-alcoholic steatohepatitis with variceal bleeding. Primary treatment was given with terlipressin and blood cells. Upper gastrointestinal endoscopy revealed active bleeding, as the glue therapy and Hemospray were unsuccessful. After a successful transjugular intrahepatic portosystemic shunt patient developed encephalopathy. All required treatment was implemented, and the patient was stable. This case study reveals that we can effectively perform complex procedures and improve patient outcomes and prognosis.

Case Report

A 55-year-old man with a history of chronic liver disease (CLD) secondary to non-alcoholic steatohepatitis (NASH) presented to the emergency department for hematemesis and hypotension. He had a pale tone and was tachycardic (130 bpm) and hypotensive (70/50 mmHg). According to the blood test, he was anemic (Hb: 3.2 g/dL). One day prior the patient was admitted to another hospital with the same complaints and underwent upper GI endoscopy and endoscopic variceal ligation (EVL). After adequate hemodynamic resuscitation with blood cell and terlipressin, the patient underwent upper GI endoscopy which showed active spurting from the esophageal variceal bleeding site, which was not controlled by glue therapy and Hemospray, and the patient was referred for TIPS placement followed by a liver transplant.

After 3 hours all the necessary arrangements were done, and the patient underwent successful TIPS placement.

Hepatic venous pressure gradient (HVPG) pressure decreased significantly, the patient was clinically stable, and had no further drop in hemoglobin. After some time, the patient landed into hepatic encephalopathy and started anti-encephalopathy measures, after which the patient was extubated on day 8. After day 15, the patient was out of encephalopathy and discharged. The patient is still in follow-up and doing great.

Conclusion

TIPS is a relatively safe and established procedure for the treatment of complications related to portal hypertension like bleeding. As the procedure is complex and needs a clear understanding to avoid further procedure-related complications, this case report illustrates that we can effectively perform complex procedures and improve patient outcomes and prognosis.

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Teenage Pregnancy: Obstetric Catastrophe Averted

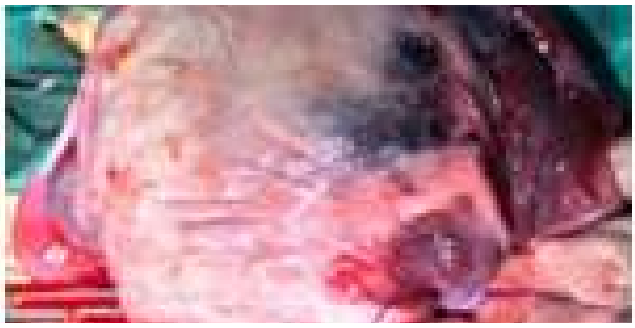
Medicover Hospials - Chandanagar

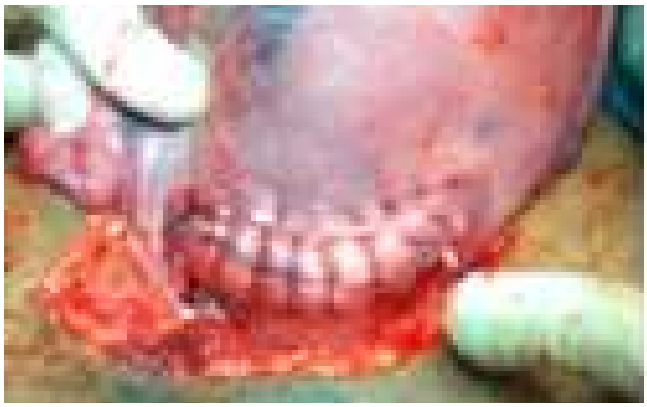
Abstract

Placental abruption is a significant obstetric complication that affects both maternal and neonatal mortality and morbidity. Moderate to severe placental abruption is a relatively rare but serious complication of pregnancy, which requires emergency management. Here we report a teenage pregnancy belonging to lower socioeconomic status, complicated with severe placental abruption (heavy vaginal bleeding with maternal shock), for which Category 1 emergency caesarean section was done at 30 weeks of gestational age. Despite being a high-risk case with severe placental abruption, obstetric catastrophe was averted and both mother and baby were saved with the help of a multidisciplinary team approach, maternal resuscitation, timely intervention, and effective post-operative monitoring. Clinical challenges included counselling of patient attendants, maternal and foetal resuscitation, and post-operative monitoring of the Patient. Proper medical records documentation and obtaining informed high-risk consent are of utmost importance.

Case Report

A 19-year-old female with primigravida at a 30-week 5 days period of gestation, belonging to lower socioeconomic status, presented to the emergency (ER) department with complaints of heavy bleeding per vagina for one hour. The patient had her antenatal visits booked inadequately supervised at a local hospital and she had a history of moderate anaemia in index pregnancy (Hb ~10); blood sugar and blood pressure levels were not available. On examination, there was maternal hypotension and tachycardia (PR: 130bpm, BP: 90/60), foetal tachycardia (~180bpm), and the uterine tone was increased, and bed linen was completely soaked with blood(estimated blood loss in ER ~1 litre). On per speculum examination, there was a gush of blood with blood clots in the vagina. Per vaginal findings included soft cervix, posterior and admitting tip of the finger, presenting part vertex high up. Bedside ultrasonography revealed a live foetus with the cephalic presentation, with foetal tachycardia (190 bpm), amniotic fluid index (AFI)~10, and placenta upper segment, posterior with evidence of retroplacental clots. Blood investigations revealed Haemoglobin 6.9 g%, Platelet count 1.6 lakhs/cumm; Bleeding time, clotting time and renal function tests were within normal limits. With simultaneous maternal resuscitation, the patient was shifted immediately for emergency lower uterine segment caesarean section (LSCS) (Category 1) with a provisional diagnosis of severe placental abruption (heavy vaginal bleeding with maternal shock). Informed high-risk consent was obtained from the family. Intraoperatively, there were ~500 cc retroplacental clots and Couvelaire uterus. Atonic postpartum haemorrhage was managed with bimanual uterine compression and uterotonics, mother received 3 units of blood transfusions. Baby details: live birth/baby boy/1.4kg AP –6,8, no gross congenital malformations. The umbilical cord length was 35 cm. Golden minutes of an early preterm baby were taken care and the baby was stabilized by the paediatrician. Post-operative period, patient vitals, input/output, complete blood picture (CBP), and renal function test (RFT) were monitored in the intensive care unit. The histopathological examination revealed placenta had normal morphology. The patient was discharged under satisfactory condition. Both mother and baby are doing well





Conclusion

Placental abruption is a life-threatening disorder for both the mother and the foetus. If the bleeding is not arrested, then the lives of the mother and foetus are in jeopardy. If there is complete separation/ near separation of the placenta (as seen in our case), both maternal and foetal death is inevitable. Unless an immediate caesarean section is performed. Despite being a high-risk case with severe placental abruption, obstetric catastrophe was averted and both mother and baby were saved with the help of a multidisciplinary team approach, maternal resuscitation, timely intervention, and effective post-operative monitoring.

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Reconstruction of Hind Foot Defect After Melanoma Resection: multidisciplinary Oncoplastic Approach

Medicover Hospials - Nellore

Abstract

Despite its low incidence, melanoma is the most common malignant neoplasm of the foot and ankle. To achieve local control of melanoma, large surgical margins are required, thus creating important soft tissue defects. Defects located in the weight-bearing heel or in the superior mid-foot cannot be reached by conventional local flaps and may be of dimensions not suitable for local flaps. There is little evidence on the use of the medial fascio cutaneous flap based on posterior tibial perforators (Ponten flap) for this type of reconstruction.

Case report

A 65-year-old male patient came with a history of the black-pigmented patch with central ulceration of size 4 cm in diameter involving hind foot sole skin and he was investigated by punch biopsy, which confirms malignant melanoma of foot with no other lesions in other parts of the body, without any palpable lymph nodes. He was evaluated in view of general anesthetic fitness and planned for oncoplastic surgery by a team of surgical oncologists and plastic surgeons. Intraoperatively the lesion was clearly measured and planning of wide excision with a normal margin of 2.5cm was done. The depth of excision was up to the muscle layer.

Reconstruction was planned by marking the Ponten flap cover and raised along with deep fascia from proximal to distal up to 6cm from medial malleolus, and a flap inset was given to cover the whole defect. After 3 weeks, flap division and final inset were given. After complete suture removal, the patient was advised to wear soft footwear to avoid pressure necrosis or ulceration of the flap. Even after 1 year of the follow-up period, no evidence of recurrence or pressure necrosis of the flap is observed.

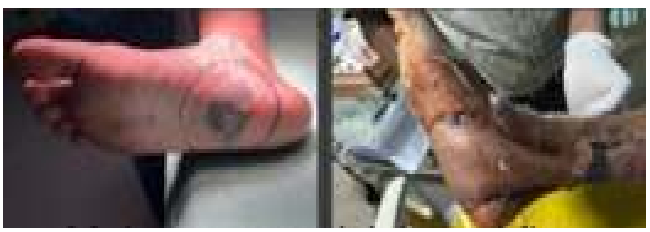

Figure 1: Melanoma excision and flap

Figure 2: Post-op after 1 month

Conclusion

The posterior tibial perforator ponten flap (PATPF) must be considered an adequate option for the treatment of small and medium-sized wounds, ranging from the distal third of the leg to the hindfoot and ankle area. It provides a similar tissue with regards to thickness, texture, and color in the recipient site, with little morbidity in the donor site, which brings about good clinical and cosmetic results. In turn, it is an indication if a reverse-flow sural flap is not possible or as a rescue after the failure of said flap.

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Physiologic Pacing: The Next Frontier

Medicover Hospials - Hi-Tech City

Abstract

Permanent pacemakers represent an important therapy for patients with severe bradyarrhythmia. Conventionally, ventricular pacing is performed by implanting the lead in the right ventricle (RV), at the apex or septum. This abnormally activates the ventricles, leads to desynchrony of contraction, and can cause left ventricular systolic dysfunction and heart failure in the long run. The newer technique of conduction system pacing (CSP) aims to use the heart's native conduction system to deliver pacing so that the ventricles are activated in a manner that is closely similar to their usual pattern of activation. This provides a physiologic form of pacing and yields better long-term outcomes compared to conventional RV pacing. CSP can be performed by either His bundle pacing or left bundle branch area pacing (LBBP) and requires specialized technique and skill on the part of the operator. In this article, two cases of LBBP carried out at Medicover Hospitals, Hitech City is described.

Case 1

A 62-year-old female diabetic, hypertensive presented with dyspnoea on exertion, fatigue, and dizziness. ECG showed a complete heart block (CHB) with a narrow QRS escape rhythm (Figure 3A). An echocardiogram showed normal LV systolic function.

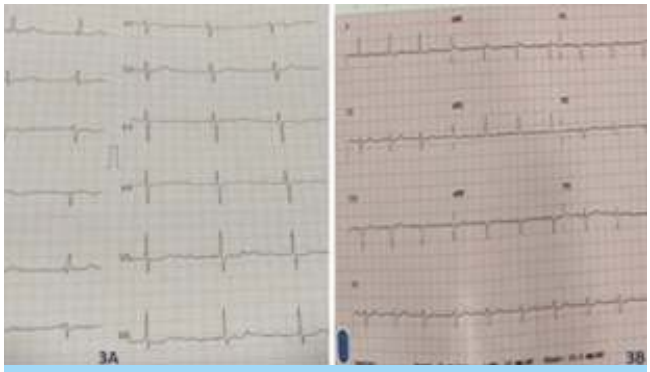

Figure 3: 3A

3A: ECG showing complete heart block with narrow QRS escape. 3B: ECG after left bundle branch pacing showing narrow paced QRS, almost identical to the original native QRS.

The patient was taken up for dual-chamber permanent pacemaker implantation to perform CSP. A quadripolar electrophysiology diagnostic catheter was placed from the femoral route in the His location to have a fluoroscopic landmark to guide the positioning of the ventricular lead. Using a Medtronic 3830 lead (Medtronic Parkway, Minneapolis, MN, USA) and a C315 His sheath (Medtronic limited, Croxley Park, Hatters Lane, Building 9, UK/Ireland). His Bundle pacing was first attempted; however, due to an abnormally high location of the His, satisfactory lead stability could not be obtained. Hence, the strategy was switched to LBBP. Using the same sheath and lead, the correct location in the interventricular septum was reached, guided by the location of the His catheter and QRS morphology on pacing through the lead. Then, five to six rapid turns with the lead were given to penetrate the interventricular septum. Using careful analysis of multiple parameters such as QRS morphology, lead impedance, measurement of activation times, and mapping of potentials, additional turns were given to position the lead at the right depth in the IVS to achieve optimal LB capture. Excessive penetration risks perforation into the LV cavity. After confirming excellent LB capture parameters, the delivery sheath was slit, and lead secured. The fluoroscopic location of the LB pacing lead is shown in Figure 4. The procedure was completed after placing the RA lead and pacemaker pulse generator. The post-procedure ECG with ventricular pacing from the LB lead is shown in Figure 3B. We can appreciate that the QRS is quite narrow (98 milliseconds) and almost similar to the native QRS in appearance. The patient had complete resolution of symptoms and was discharged uneventfully.

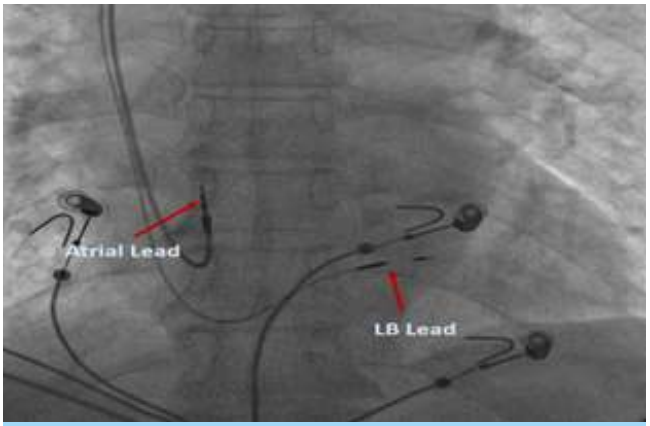

Figure 4

Anteroposterior fluoroscopic view showing the positions of the right atrial (RA) and left bundle (LB) lead.

Case 2

A 74-year-old male, diabetic and hypertensive, presented with significant shortness of breath for the past 4-5 days, associated with dizziness. ECG revealed2:1 AV block with a very prolonged PR interval for the conducted beat and every alternate p wave blocked. Additionally, the QRS was broad, with a QRS duration of 150 milliseconds (ms), with a left bundle branch block (LBBB) morphology (Figure 5A). The patient also had intermittent complete heart block. Echocardiography showed normal LV systolic function and coronary angiography showed minor coronary artery disease. After initial stabilization with a femoral temporary pacing wire, he was taken up for permanent pacemaker implantation with a dual-chamber pacemaker.

Because of potential infra-Hisian AV block, it was decided to perform LBBP straightaway rather than His bundle pacing. Using a similar approach as in Case 1, the pacing lead was screwed into the correct location in the IVS, and good LB capture parameters were obtained. The post-procedure ECG with ventricular pacing from the LB lead is shown in Figure 5B. A comparison of this ECG to the pre-procedure ECG demonstrates how the QRS has significantly narrowed to 95 ms, with complete correction of LBBB. The patient had excellent recovery with complete relief of symptoms and was discharged on day 2.

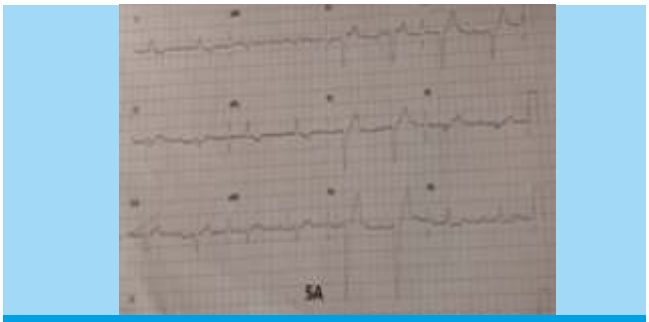

Figure 5A

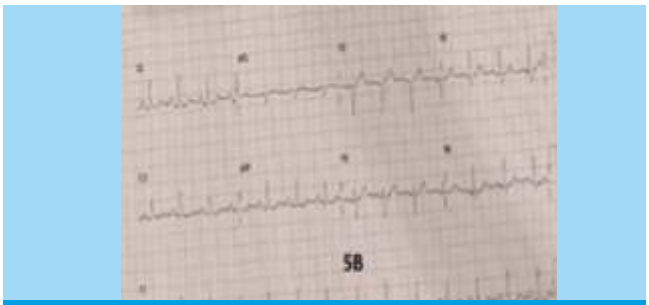

Figure 5B

5A: ECG showing complete heart block with broad QRS escape of left bundle branch block (LBBB) morphology. 5B: Post pacemaker ECG showing narrow-paced QRS, with complete correction of LBBB.

Discussion

The above two cases demonstrate how CSP can be used to achieve very gratifying results in terms of QRS morphology and avoiding the risk of pacing cardiomyopathy. To better appreciate the difference from usual RV pacing, an ECG with regular RV pacing versus LBBP is shown in Figure 6

Contrasting conventional right ventricular (RV) pacing with broad QRS (6A), versus left bundle branch (LBB) pacing with narrow QRS (6B).

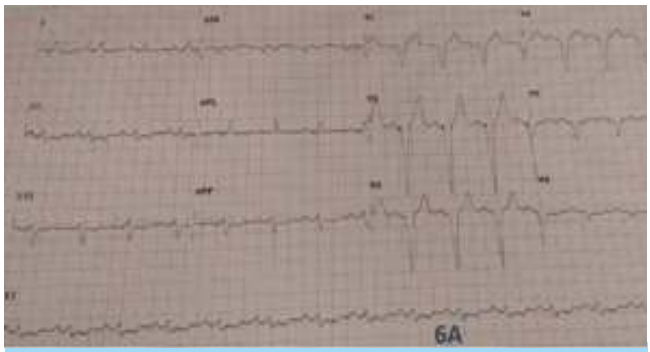

Figure 6A

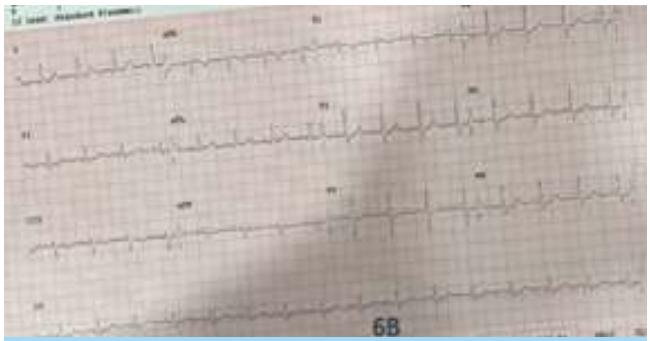

Figure 6B

Additionally, as Case 2 demonstrates, pre-existing bundle branch block can be overcome using CSP; thus, it can be an excellent alternative to CRT in selected cases, yielding both better results and reducing the cost of the procedure considerably as CRT can be performed with just a dual-chamber pacemaker, rather than an expensive CRT device. However, in CRT candidates with pre-existing cardiomyopathy, the risk of diffuse conduction system disease is higher due to fibrosis, with subsequently a risk of failure to correct bundle branch block by CSP which should

be kept in mind. The need for a concomitant defibrillator (ICD) will also determine the type of device chosen. Nevertheless, CSP is being performed in many cases as an alternative to CRT with good results. At our center, we have been performing CSP over the past 2 years and aim to gradually expand the numbers with the ultimate aim of making it the default approach to cardiac pacing. Ongoing studies with CSP and worldwide experience will give us more information and confidence in this regard.

Conclusion

The newer technique of conduction system pacing (CSP) aims to use the heart's native conduction system to deliver pacing so that the ventricles are activated in a manner that is closely similar to their usual pattern of activation. This provides a physiologic form of pacing and yields better long-term outcomes compared to conventional RV pacing. CSP can be performed by either His bundle pacing or left bundle branch area pacing (LBBP) and requires specialized technique and skill on the part of the operator.

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Treating Convulsions Beyond Anticonvulsants

Medicover Hospials - Visakhapatnam Women & Child

Abstract

An 11-month-old female baby presented with recurrent afebrile convulsions since 9 months of age. Clinical history revealed that the patient born to a non-consanguineous couple was undergoing treatment for the same at an outside hospital and was on anticonvulsant treatment for 2 months without being investigated for the cause. Despite undergoing treatment with anticonvulsants, the patient suffered from recurrent episodes of convulsions. On examination, the development of the baby was found to be normal, with no dysmorphic features, nor systemic disturbances found.

Introduction

Convulsions are a condition in which the muscles contract and relax quickly, which causes uncontrolled shaking of the body that lasts for a few seconds to minutes. Convulsions are caused due to head injury, genetic defects, infections like meningitis, and certain drugs that cause convulsions. Congenital hyperinsulinism is caused by genetic mutations that result in inappropriate and excess insulin secretions from the beta cells of the pancreas that cause low plasma sugar(hypoglycemia) or low blood sugar. We present our case report on treating convulsions beyond anticonvulsant therapy.

Case report

The patient was admitted for a complaint of recurrent afebrile convulsions and appropriate investigations were advised. Blood investigations showed decreased blood sugar and high levels of serum ammonia with other parameters being within normal limits. Radiological investigations (CT brain) showed no abnormalities. A hormonal study of serum showed increased levels of insulin and elevated C-peptide levels.

Based on the reports, the patient was diagnosed to be suffering from congenital hyperinsulinism (hyperammonemia and hyperins-ulinism). The patient was hence admitted for management of congenital hyperinsulinism (hyperammonemia and hyperinsulinism). The course of treatment followed included frequent glucose feeds and diazoxide administration. The entire course of treatment for 5 days was uneventful. On review, the growth of the baby was found to be good with no further episodes of convulsions post-discharge.

Conclusion

The use of anticonvulsants without investigating the cause of convulsions shows no results. The cause of it should be investigated and treated accordingly. Analyzing the cause of convulsions both hypoglycemia and estimating the blood sugar levels, plays a significant role in planning the care appropriately. The first line of intervention in such cases of hyperinsulinism-induced convulsions includes treatment with frequent glucose feeds and drugs, such as diazoxide, somatostatin analogs, and nifedipine. Hyperinsulinism with hyperplasia of the pancreas showing no response to drugs/medical management should be further investigated with investigations like PET dopa scan to know the extent of pancreatic involvement and choose a treatment pathway accordingly. Hyperinsulinism with hyperplasia of the pancreas showing no response to drugs will require surgical intervention, such as partial/full pancreatectomy depending on the involvement of the pancreas.

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Challenges in Treating Post-Covid Mucormycosis: Case Report

Medicover Hospials - Aurangabad

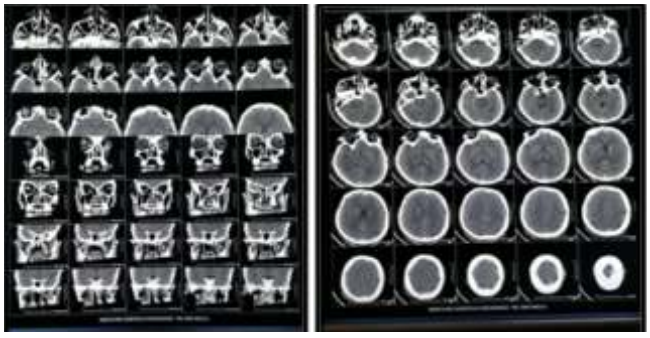
Abstract

Coronavirus disease (COVID-19) is a highly infectious disease leading to fatal morbidity and mortality in patients with severe acute respiratory disease syndrome; pulmonary fibrosis is common with COVID-19. A 32-year-old male with diabetes who was treated for COVID-19 developed left eye proptosis and left facial palsy. Computed tomography brain and orbits were suggestive of mucormycosis. Functional endoscopic sinus surgery (FESS) was done and a sample was sent to histopathology, the patient was put on a mechanical ventilator, and given supportive treatment. The patient had developed left-sided hemiplegia. On prolonged support of the ventilator, the patient had ventilator-associated pneumonia. Early surgical intervention, intravenous antifungal treatment, and a good supportive critical care management was provided to have a good prognosis.Less fulminant disease course can be achieved in such cases of post-COVID-19 mucormycosis.

Case presentation

A 32-year-old diabetic male undergoing treatment for COVID-19 in another hospital, who developed left eye proptosis and left facial palsy was referred to Medicover Hospitals, Aurangabad. Computed tomography (CT)brain and orbit were suggestive of mucormycosis. The patient was referred to a Dentist and the case was operated on with the help of a maxillofacial surgeon.

Functional endoscopic sinus surgery (FESS)and Left subtotal Maxillectomy with left orbital decompression were done, and the sample was sent for histopathological examination. The patient was put on an invasive mechanical ventilator and started on liposomal amphotericin, broad-spectrum antibiotics, and diabetes control. On postoperative day-1 patient developed



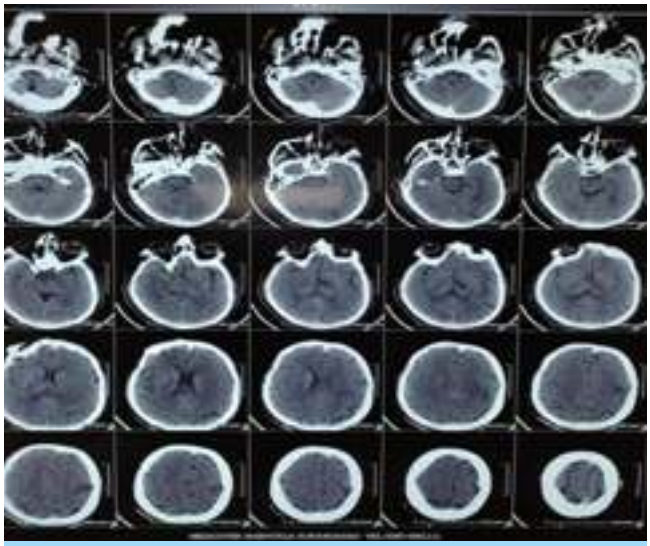


Figure 1: Infarct and low molecular weight heparin

right-sided hemiplegia. CT brain suggested multiple small infarcts in the thalamus and left parietal region. The patient was treated with antiplatelet and low molecular weight heparin.

In view of his neurological status, he was on prolonged ventilation due to which he developed ventilator-associated pneumonia and was in septic shock requiring inotropic support. Culture screening was sent and was treated as per the sensitivity report.

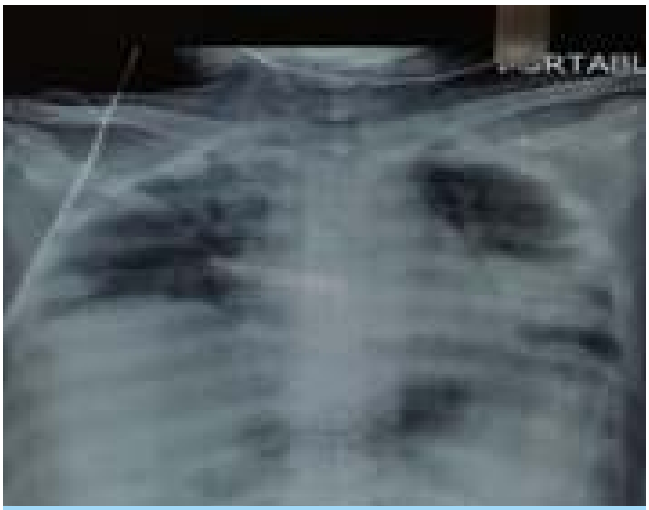


Figure 2: Pneumonia VAP with ARDS

Pneumonia VAP with ARDS In view of prolonged ventilation, percutaneous tracheostomy was done. Gradually patient started improving, supports were weaned off, and decannulation was done on the post-operative day-17. Post-decannulation, the patient remained stable, had no new clinical deterioration, and was discharged on the 27th day of admission with the advice to follow up for a zygomatic implant and nasolabial flap to cover the palate.

Figure 3: Post-Tracheostomy

We could successfully manage the patient as per evidence of critical care medicine guidelines with optimization of critical care bundles and we were successful in preventing acute kidney injury (AKI) in this patient, who was at substantial risk of developing AKI without the requirement of renal replacement. This is the best example of integrated multispecialty approach along with very good ICU nursing care.

Figure 4: Weaning and Mobilization

Conclusion

Mucormycosis is a life-threatening infection associated with COVID-19 infection. Uncontrolled diabetes is one of the common risk factors for the development such opportunistic infections. Early surgical intervention, intravenous antifungal treatment, and a good supportive critical care management can have a good prognosis and less fulminant disease course can be achieved in such cases of post-COVID-19 mucormycosis.

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Arteriovenous malformation in the middle mediastinum with spontaneous hemoptysis and successful management by Endovascular embolization

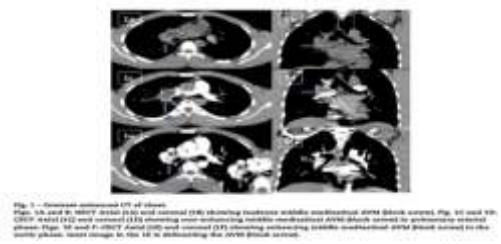
Medicover Hospials - Visakhapatnam

Abstract

Arteriovenous malformations in the mediastinum are rare and extremely unusual in the middle mediastinum. The present report describes a 26-year male with spontaneous massive hemoptysis due to arteriovenous malformation in the middle mediastinum and successful management by endovascular embolization. Spontaneous massive hemoptysis can be a presenting feature of arteriovenous malformation in the middle mediastinum and endovascular embolization can be curative.

Case Report

A 26-year male presented with a complaint of spontaneous massive hemoptysis (500-600 mL) and a history of 2 episodes of small quantities (5-15 mL) of hemoptysis in the last 2 weeks. There is no history of fever or prior infections like tuberculosis.



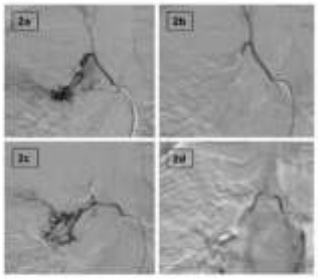
or chest trauma. His medical history, physical examination, routine blood tests, and electrocardiogram were unremarkable. A chest radiograph revealed a mildly bulky right hilum. Non-enhanced computed tomography (CT) of the chest revealed abnormal isodense soft tissue in the middle mediastinum (Figs. 1A and B). CT pulmonary angiogram phase revealed no obvious pulmonary arterial feeders (Figs. 1C and D). Contrast-enhanced CT of the chest in the aortic phase revealed an irregular meshwork of intensely enhancing dilated serpiginous vessels in the middle mediastinum of size 3.5 × 3.0 cm located in the right hilar region, around the right main bronchus (Figs. 1E and F). A small component of the meshwork was noted in the subcarinal region. These findings were in favor of AVM. The lesion was enhanced in the aortic phase suggesting its supply from the bronchial artery. So, for better delineation of angioanatomy, digital subtraction angiography (DSA) was considered. A finding of achalasia cardia was noted. DSA of the aorta and selective angiograms of the right intercostobrachial trunk gives rise to the first bronchial artery (Fig. 2A), a second bronchial artery from the aorta (Fig. 2C), left bronchial artery and posterior intercostal arteries confirmed the middle mediastinal AVM supplied by 2 right bronchial arteries and draining into the right superior pulmonary vein (Figs. 2A and C). The treatment options of surgery and embolization were put forward, out of which the patient gave consent for embolization. Endovascular embolization was done with polyvinyl alcohol particles (PVA-500) and gel foam, after selective cannulation of the first bronchial arterial feeder (Figs. 2A and B) and second bronchial arterial feeder (Figs. 2C and D). With the complete exclusion of the AVM from the circulation at the end of the procedure with no complications. The patient was discharged and is on regular follow-up for 4 years with no recurrence of hemoptysis.

Discussion

Arteriovenous malformations (AVM) of the mediastinum are extremely rare [1–8] lesions and are more commonly present in childhood. This vascular anomaly was first described in the mediastinum by Lunde and colleagues in

1984 [6]. Since then, fewer than 10 cases of posterior mediastinal AVMs, 2 cases, and 1 case of anterior and middle mediastinal AVMs in adults have been documented [8]. To the best of our knowledge from the literature, symptomatic middle mediastinal AVM with massive hemoptysis in an adult is extremely rare. AVMs are reported in many organ systems of the body. In the thorax, pulmonary AVMs are more commonly encountered and may be associated with hereditary hemorrhagic telangiectasia. (Osler-weber-rendu disease). Our case of middle mediastinal AVM is extremely rare and was supplied by 2 right bronchial arteries with no association with Osler-weber-rendu disease. An AVM may be asymptomatic and becomes symptomatic if it gets infected or enlarges and exerts pressure on vital mediastinal structures, such as the trachea or superior vena cava

Pneumonia VAP with ARDS In view of prolonged ventilation, percutaneous tracheostomy was done. Gradually patient started improving, supports were weaned off, and decannulation was done on the post-operative day-17. Post-decannulation, the patient remained stable, had no new clinical deterioration, and was discharged on the 27th day of admission with the advice to follow up for a zygomatic implant and nasolabial flap to cover the palate.



Severe hemorrhage is also a risk, although, to date, only 1 patient with spontaneous rupture of posterior mediastinal AVM with bilateral hemothorax has been documented [4]. Our case of middle mediastinal AVM with spontaneous rupture into the airway with massive hemoptysis is unusual and hasn't been addressed. Asymptomatic AVMs may be managed conservatively, using a wait and watch approach. If the AVM is symptomatic as was our case, treatment options are embolization or surgery or preoperative embolization followed by surgery. Complete surgical removal of mediastinal AVMs may be complicated by encroachment and adherence of the lesion on adjacent vital mediastinal structures such as major airways and great vessels [8]. In our case, there was encroachment of the right intermediate bronchus, so surgical resection was thought to be complicated and not feasible. The patient consented to endovascular embolization, which was carried out successfully with complete exclusion of middle mediastinal AVM from the circulation. There was no recurrence of hemoptysis on follows up.

Conclusion

Arteriovenous malformation in the middle mediastinum of an adult presenting with spontaneous hemoptysis is extremely rare and endovascular embolization can be curative. To the best of our knowledge from the literature, such a case is extremely rare.

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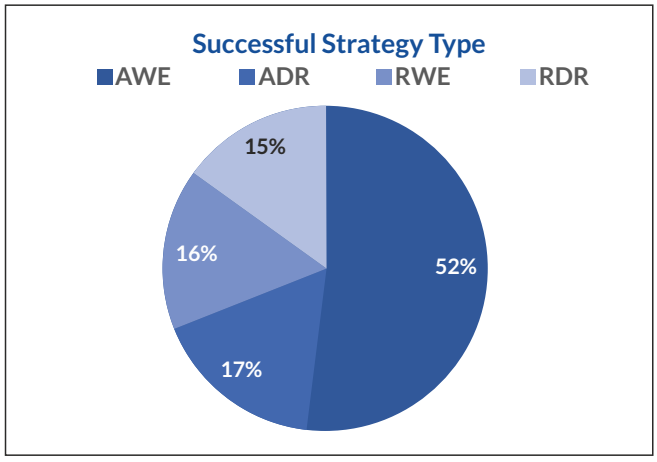
CTO Success Rate at Medicover

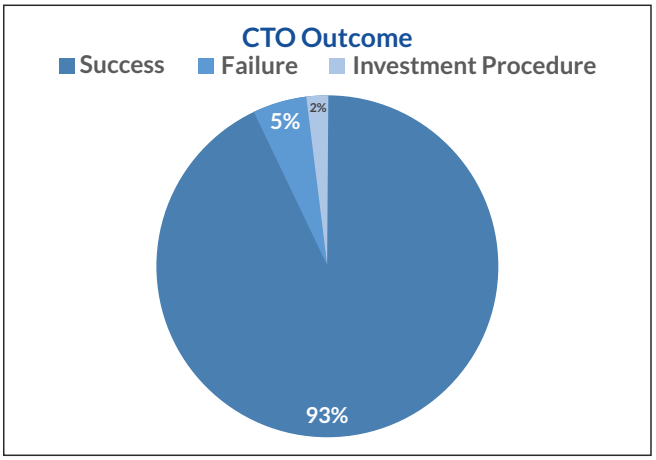
Medicover Hospials - Hi-Tech City

Chronic total occlusion (CTO) is the complete(100%) blockage of one or more coronary arteries lasting more than three months. This prevents the free flow of blood to the part of the heart, which is supplied by that artery. Without enough blood flow, the heart does not receive oxygen and nutrients, which compromises its functionality resulting in chest pain (angina). CTO is commonly found in around 10-15 % of patients undergoing coronary angiography for clinically established ischemic heart disease.

Chronic Total Occlusion interventions are considered as the last mile of learning for any interventional cardiology team. Our interventional Cardiology team lead by **Dr. A Sharath Reddy, Director- Complex coronary and CTO Interventions** took these challenging surgeries to a new level in the Indian Subcontinent by making world-class hardware available 24x7 in our Cath lab.



Our accumulated experience of these surgeries in the last 11 years has catapulted the success rate of these interventions to 93% which is comparable to any other world-class cardiac intervention centre in Japan, Europe, and the US. Our interventionists, at Medicover Hospitals, proctor, and train cardiologists all over India and in South-East Asian countries to make collective wisdom reach last-mile needy individuals.



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MEDICOVER HOSPITALS

GOLDEN HOUR

When it comes to "Golden Hour" care it is only at - Medicover Emergency

01 <5 min
Door to Doctor time in ER

02 <5 min
Door to ECG time for chest pain

03 <30 min
Door to Needle time
(Thrombolysis for MI)

04 <45 min
Door to Needle time
(Thrombolysis for stroke)

05 <30 min
Door to Balloon time
(Acute MI)

06 <45 min
Door to Antibiotic time
(Sepsis)

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TELANGANA
Hyderabad: Hitec City | Woman & Child Centre, Cancer Institute | Chandanagar

Karimnagar | Nizamabad | Sangareddy | Zahirabad

ANDHRA PRADESH
Nellore (Multispeciality & Cancer Institute) | Kurnool | Srikakulam | Vizag | Kakinada | Vizianagaram

MAHARASHTRA
Nashik | Aurangabad | Sangamner | Mumbai | Pune

OUR NETWORK - GLOBAL

Belarus | Bulgaria | Georgia | Germany | Hungary | Moldova | Poland | Romania | Serbia | Turkey | Ukraine

MEDICOVER HOSPITALS