

2023

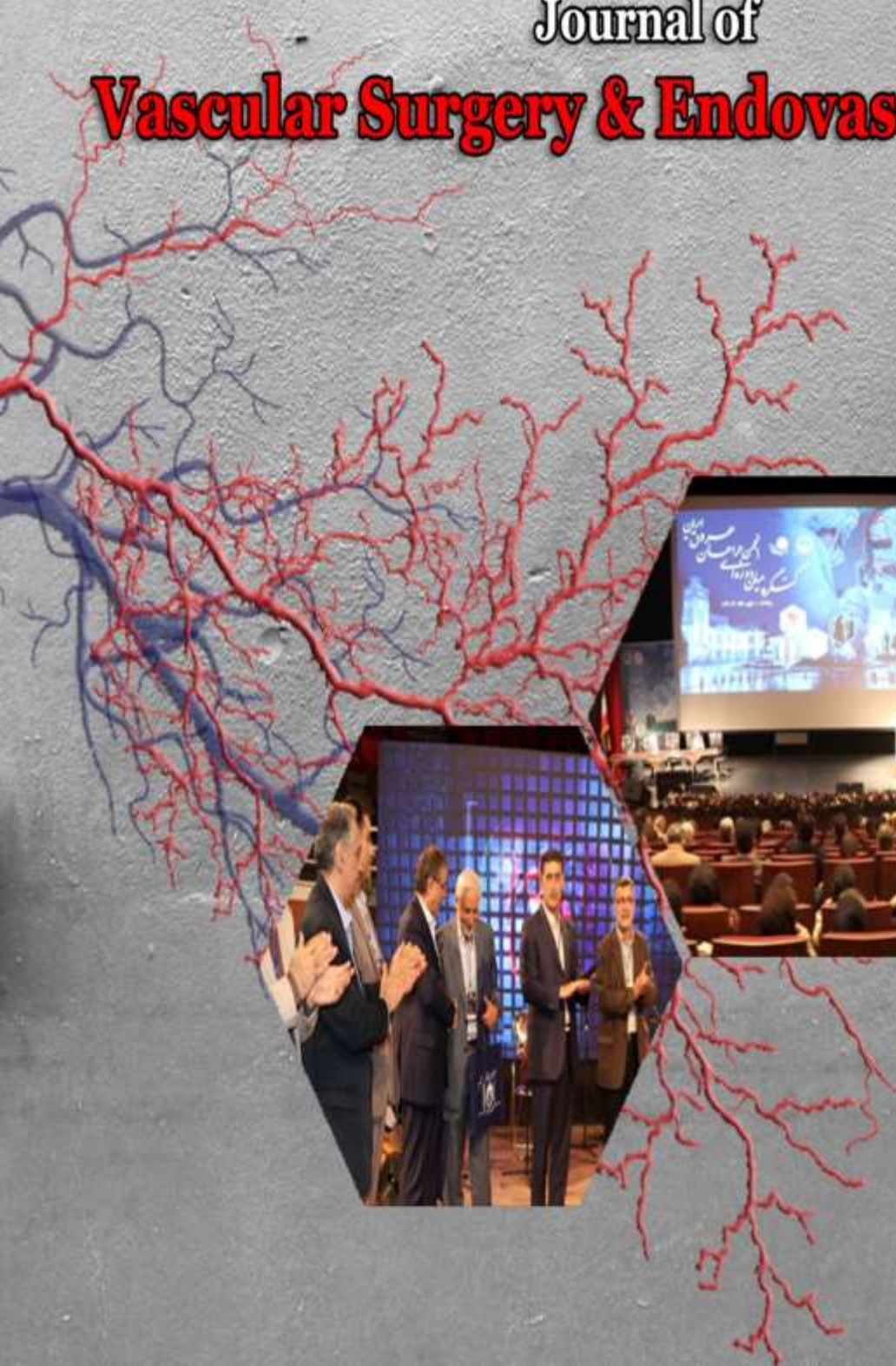
Volume 3, Issue 1 (Supplementary)



**Iranian**

Journal of

**Vascular Surgery & Endovascular Therapy**



The official Journal of  
the Iranian Society for Vascular Surgery





دانشگاه علوم پزشکی و خدمات بهداشتی درمانی تهران

# ایران عروق انجمن جراحان کسره میان دوره‌ها

۲۶ و ۲۷ مهر ماه ۱۴۰۲  
رشت - تالار مرکزی شهر



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# Central vein stenosis in dialysis patient

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## Abstract

Central vein stenosis occurs concurrently in SVC and brachiocephalic and subclavian vein in hemodialysis patient. But it is seen in patients with history of catheter in lower limb (femoral and iliac vein stenosis). The complications of this stenosis is troublesome for patients.

A 64-year-old male patient with history of 6 years' hemodialysis and Central vein stenosis (occlusion of svc). 8 months ago, AVG of right thigh was done. From three months ago edema of right limb was seen. Chronic vein insufficiency (CVI) was seen in right lower limb. Bleeding after hemodialysis was seen in each time of dialysis. Lipodermatosclerosis was seen in lower leg. Our goal was to maintain of AVG function. Patient was candidate for IVC, iliac, AVG and lower limb venography. Venography was done through AVG cannulation. Severe stenosis of R iliac vein was seen. Balloon angioplasty of iliac vein was done with 14 \* 80 mm balloon. Immediately after balloon angioplasty, blood pressure was decreased, and patient felt severe pain in right flank. Immediately repeat venography was done. Leakage from iliac vein was seen. It was decided to insert the stent graft for iliac vein reconstruction. A 10\*60 mm stent graft was deployed. Leakage was stopped, and stenosis was resolved. The function of AVG was normal and bleeding was stopped. Over the next few weeks, a partial improvement was seen in the symptoms of lower limb (CVI).

Central vein stenosis is commonly in dialysis patient. Early diagnosis is important and endovascular approach is the best choice. Complications of this approach is often compensable with endovascular treatment.

**Keywords:** Hemodialysis, Iliac vein stenosis, Endovascular



Case report

# Primary aortoduodenal fistula: As a first Presentation of Brucellosis

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## Abstract

Etiologies of primary aortoenteric fistula include aneurysm (most common), foreign body, tumor, radiation therapy, and infection (e.g., tuberculosis, syphilis). Brucellosis is an infrequent cause of primary aortoenteric fistula. In this study, we reported A 55 years old male with an aortoenteric fistula and a positive brucellosis test. Aortitis due to brucellosis is rare; however, it can have a life-threatening manifestation such as aortoduodenal fistula; therefore, Wright, Coombs wright, and 2ME tests are recommended in similar cases.

**Keywords:** Aortoenteric fistula, Brucellosis, Gastrointestinal bleeding, Infected aortitis, Primary aortoenteric fistula

## Renal arteriovenous malformation

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### Abstract

Renal arteriovenous malformation is a rare kind of AVM that can be congenital, idiopathic, and acquired as post-traumatic. Although it is so rare, the congenital form is more common in renal AVMs. In this presentation we presented a real case from our center; A 28-year-old woman presented with only transient episodes of hypertension as a complaint. Suspicion of AVM was raised due to incidental finding of a vasculature lesion in the right kidney by gynecologic sonography the first time and then referred to vascular surgeon for further investigations. Assessment continued by CT angiography and then selective angiography resulted in a high flow AVM in right kidney with origin of right main renal artery. The patient planned for endovascular intervention due to high flow AVM and tried to save the kidney. Coil Embolisation was performed through the right main renal artery successfully, and detachable three coils were deployed. Post-intervention angiography showed a large amount of reduction in AVM flow. The patient has been followed for 6 months without any complications, but complimentary venous side embolization is necessary in the future.

**Keywords:** AVM, Arteriovenous malformation, Congenital, Renal AVM

# Endovascular interventions in vascular trauma

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## Abstract

Vascular trauma is one of the most fatal complications of trauma. On-time decision-making and prompt application of available facilities in vascular trauma patients is one of the most important challenges of vascular surgeons. With the advancement of endovascular facilities, a significant number of vascular traumas that previously required complex and complicated open surgical interventions, can now be managed with endovascular interventions. REBOA provides an alternative to EDT and aortic clamping in moribund cases by using endovascular technology. TEVAR has become the standard of care in thoracic aortic injuries. Surgical interventions for different degrees of vascular trauma are replaced widely by stents (bare and covered). The use of materials and devices for embolization of injured vessels is rapidly increasing and has replaced open procedures in many centers. Finally, it is not surprising that every day, new endovascular techniques are introduced as an alternative to open surgery.

**Keywords:** Endovascular, Intervention, Vascular trauma

# Open surgery for inflammatory abdominal aortic aneurysm

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## Abstract

Inflammatory abdominal aortic aneurysms are a rare, life-threatening pathology accounting for 2.2 to 18.1% of all abdominal aortic aneurysms. Characterized by the thickness of the aortic wall, with peri-aneurysmal fibrosis, expanding to adjacent organs.

Open surgical repair and endovascular aneurysm repair are two treatment methods. Open surgical repair for inflammatory abdominal aortic aneurysms pose one of the controversial and challenging issues in vascular surgery due to increasing the risk of iatrogenic intraoperative injury to surrounding organs and critical anatomical structures. Thus, it may lead to higher intra and postoperative morbidity and mortality.

Thus, when considering open repair, additional consideration needs to be made for intra -operative optimization to avoiding additional multi-organ injury. Due to very few cases of inflammatory abdominal aortic aneurysm, the type of surgical technique is controversial.

The surgical experience of 10 cases of inflammatory aneurysms has led to the selection of the appropriate technique for the operation of such patients.

Open repair with proximal/and/or distal clamping, avoids severe adhesion-lysis, decrease procedure-related morbidity, and 30-day perioperative mortality.

In the attached clip, the technique used is shown in real and animated form. All the above ten patients were discharged with good general condition without any special complications during surgery.

**Keywords:** Inflammatory aortic aneurysms, Open surgical repair, Vascular surgery



Case report

# An anterior nutcracker with an innovative surgical management

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## Abstract

A 32 years old female was admitted due to left flank and hypogastric pain since ten years ago. She had hematuria and menometrorrhagia also. She had a premature labor. CTA showed left renal compression between SMA and aorta. After laparotomy we found a fibrofatty band constricting the proximal left renal vein. After releasing the band, underlying stenosis was revealed. An innovative approach was applied. A longitudinal incision was made under the left renal vein extending to the lateral side of inferior vena cava about 5 cm after clamping. Venotomy was repaired transversely with prolene 6.0. Outflow distension was relieved successfully. After eight months, there was no complaint from pain and hematuria.

**Keywords:** Anterior nutcracker, Vascular surgery

## A case report of an unusual presentation of a patient with subclavian artery trauma

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### Abstract

A 26-year-old male patient referred to the emergency room due to right supraclavicular SW. BP: 110/80, PR: 120 at first visit. There was venous bleeding from the wound. He had subcutaneous emphysema in the neck and right hemithorax. The pulse of the right hand was normal. The patient was revived. A right chest tube was inserted for the patient, and about 150 cc of blood was removed. Due to stability, CT angiography was requested for the patient<sup>1</sup>. According to the above CT angiography, which did not have contrast material extravasation, vascular damage was not detected, and the patient was transferred to the operating room in the general surgery department, and was treated for wound washing and muscle repair, and after the operation, he was transferred to the ward. The patient did not have any special problems until the second day after the operation, he was stable, the chest tube did not have much discharge. The pulse of the right hand was also palpable. On the second day of the operation, the patient suddenly experienced hypotension, tachycardia, severe swelling of the neck, axilla, and right hemithorax. Two units of blood were injected for the patient, he was resuscitated, and CT angiography and vascular consultation were requested again<sup>2</sup>. In the surgical visit, the patient's vessels were completely unstable. A wide expanding hematoma was evident in the neck, axilla and right hemithorax. The pulse of the right hand was very weak and decreased compared to the left. Despite receiving 4 units of blood, HB was 5.5. The patient was immediately transferred to the operating room. In the operating room, surgery was performed with an infraclavicular incision, the subclavian artery was controlled, a defect of about 1.5 cm was evident in the upper part of the artery, which after repair caused a decrease in flow distal, so a subclavian-axillary bypass with a reversed saphenous vein was performed for the patient. And the patient was discharged from the hospital 4 days later with a good general condition.

**Keywords:** Damage to the subclavian artery, Large vessel trauma

# Renal nutcracker syndrome presenting with varicocele: A case series report

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## Abstract

Nutcracker syndrome (NCS) is a rare condition characterized by left renal vein compression and presents with diverse clinical manifestations. This case series describes the clinical presentations, diagnostic workup, and outcomes of four male patients with varicocele and NCS, highlighting the need for improved diagnostic and management approaches. A retrospective case series study was conducted on four male patients diagnosed with varicocele and NCS between April 2022 and June 2023. Data, including medical history, physical examination, laboratory tests, and imaging studies, were collected. The diagnostic workup included duplex ultrasound (DUS) and contrast-enhanced computed tomography (CT) scans. Treatment options were discussed, and open surgical interventions were performed by a single vascular surgeon. Patients were followed up for a minimum of six months. The patients presented with pain in the hypogastric, flank, or groin area, scrotum swelling, and low sperm count. There was no evidence of hematuria or proteinuria. Diagnostic criteria for NCS were met based on symptoms and imaging findings. Surgical interventions, including left renal vein transposition, saphenous vein bypass, and gonadal vein transposition, were performed with successful outcomes. Recurrent varicocele occurred in two patients, which was managed with local religation. No major complications were observed during the follow-up period. This case series highlights the variable and atypical clinical presentations of NCS presenting with varicocele. Open surgical interventions were effective in relieving symptoms and improving patient outcomes.

**Keywords:** Nutcracker syndrome (NCS), Varicocele,



# Kidney Disease Outcomes Quality Initiative clinical practice guideline for vascular access

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## Abstract

Kidney Disease Outcomes Quality Initiative (KDOQI) clinical practice guideline for vascular Access considers that It reasonable to have a Central Venous Catheter (CVC) or AV access (AVF or AVG) in a patient requiring HD, when consistent with their ESKD Life-Plan, so we discuss about indications, timing, planning and location for creation/insertion of dialysis access. post AV access creation consideration are also explained.

**Keywords:** KDOQI, Vascular Access

## Hybrid surgery of arteriovenous malformation and aneurysm on the foot, A case report

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### Abstract

A 31-year-old female patient came to our center with severe pain in the sole of her right foot while walking, which had been increasing since 6 months ago. The patient had no history of any previous disease and no surgery or trauma. In the sonography, an aneurysm was reported in the posterior tibia artery in the ankle zone along with numerous prominent vessels in the sole of the foot. In the angiography, an aneurysm was detected in the posterior tibia artery at the back of the ankle along with AVM in the sole of the foot. According to that, a hybrid surgery was decided. After spinal anesthesia, the skin was opened with an incision in medial post of malleol, and the aneurysmal part of the posterior tibia artery was released, and control then a sheet was inserted from the distal part of the aneurysm thorough the guide wire and entered to the artery and then fixed. Then an angiography of the plantar of the foot was performed and the feeding arteries of AVM were determined, first we clamped proximal of aneurysm and then PVA embolization was done. Due to the large size of AVM continue with gel foam Embolization. At last, a main feeding branch was closed with a coil and the major part of AVM was closed. After, the aneurysmal part was removed and the saphenous vein interposition of the posterior tibial artery. In the post-operative examination, the patient had no movement disorders and the pulsating mass on the sole of the foot was not palpable. AVMs of the sole of the foot are rare and can cause disturbances in normal living activities. Surgical excision of the AVM was the gold-standard treatment but is difficult because AVMs usually exist inside normal tissue However, surgical ligation or coil embolization of the feeding artery is also difficult and possibly harmful due to consequent development of numerous collateral feeders shunting to the nidus.

**Keywords:** AVM, Aneurysm of tibial artery, Hybrid surgery

## Successful endovascular management of giant internal iliac aneurysm; A case report

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### Abstract

A 63-year-old male presented with a incidentally found iliac aneurysm in abdominopelvic U/S with no symptoms related to U/S finding. He was previously smoker, overweighted, with history of controlled DM and HTN.

CTA performed for planning treatment, showed bilateral CIA aneurysms (L: 29 mm, R: 38 mm) and right side internal iliac artery aneurysm (8 cm) with healthy aorta.

Iliac artery aneurysms (IAAs) commonly occur concurrently with more proximal arterial aneurysms. Isolated iliac aneurysms occur with an incidence of 0.4% to 1.9% in the general population.

Aneurysmal degeneration typically involves the common iliac artery (CIA, 70%–90%) and internal iliac artery (IIA, 10%–30%), or both of these segments contiguously. Endovascular iliac arterial aneurysm repair has advantages over open repair with regard to surgical invasiveness; hypogastric artery embolization is a commonly-adopted technique for this procedure.

**Keywords:** Aneurysm, EVAR, Iliac artery



# Investigation of the expression of key genes of arteriovenous malformation for the purpose of diagnosis, prognosis and treatment of patients

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## Abstract

Vascular malformations (VMs) occur during early vascular development resulting in abnormally formed vessels that can manifest as arterial, venous, capillary or lymphatic lesions or in combination, and include local tissue overdevelopment. Targeting related genes can provide effective treatment of VMs. However, it may be difficult to identification of appropriate target gene among a complex network of differentially expressed genes (DEGs), we analyzed the high throughput gene expression data through network-based approaches to achieve important therapeutic targets. A Dataset was taken from gene expression omnibus (GEO). Gene expression analysis was done via ExAtlas software. Gene enrichment analysis was done using Database for Annotation, Visualization and Integrated Discovery. Protein-protein interaction network was analyzed by Cytoscape 3.8.0 to find hub genes and significant modules. The clinical importance of candidate genes in predicting vascular malformation patient's outcome was determined using ROC analysis and survival analysis. The mRNA nucleotide sequences of reference and target genes were obtained from NCBI. The primers for all genes were designed by Allele ID 7.6 software. The genes expressions in the VMs tissues were measured using RT-qPCR. A total of 29 unique DEGs (1 upregulated and 28 downregulated) were identified that were mainly enriched in molecular functions of RNA polymerase, ribonucleoprotein, DNA and RNA binding. Main enriched cellular compartments related to DEGs were intracellular regions, nucleoplasm and kinetochores. Also, DEGs were mainly involved in pathways of cell inflammation, tumorigenesis, apoptosis, and VEGF-mediated angiogenesis through AKT/MAPK/ERK1/2 signaling pathways. Network analysis revealed 25 hub genes that 17 of them were contributed in three significant modules and considered as key hub genes. Only 8 key hub genes were able to predict type of VMs patients and considered as candidate genes. Among them, two genes were positively correlated with AVMs patients. We found 8 gene signatures associated with angiogenesis that predict clinical response of AVM patients to conventional therapies.

**Keywords:** Arteriovenous malformation, Gene expression, Protein-protein interaction network, Real time PCR, Vascular malformations

# A customized diagnostic and therapeutic algorithmic approach to vascular malformations and hemangiomas

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## Abstract

Vascular Anomalies are divided into two types: vascular tumors and vascular malformations. Vascular Malformations can be low flow, high flow or combined. Imaging technology and interventional radiology is crucial for an accurate diagnosis and treatment planning of vascular anomalies. There is not any universal protocol to diagnose and manage a patient with vascular anomaly. We tried to present a simple and customized algorithm to manage these lesions. The first step for approaching these lesions is taking a meticulous history and contemplating a thorough physical examination. Any well-defined lesion should be considered for resection and MRI should be done to define lesion extension before surgery. Infantile Hemangiomas (IH) are mostly treated conservatively with observation. Any IH that interferes with any organ function should be considered for treatment with steroids or betablockers. Capillary malformations are mostly treated with pulsed dye laser (PDL). The most common vascular malformation (VM) is venous malformation. The imaging modality of choice to assess well-defined VM is MRI. Whenever there is an ill-defined VM ultrasonography can be used to assess the feasibility of sclerotherapy. Lymphatic malformations can be either microcystic or macrocystic. Cystic hygromas should be considered for resection or sclerotherapy and Lymphangiomas can be resected. Whenever there is a high flow AVM, if there is an ill-defined lesion, angiography is used to localize the nidus and guide embolization. If there is a well-defined AVM, MRI can be used as an imaging modality to guide lesion resection and if needed interventional therapy. We summarized the above protocol as an algorithm to approach any patient with a vascular anomaly.

**Keywords:** Algorithm, Vascular anomaly

# Tunneled cuff catheter for hemodialysis inserted ipsilateral side of an Implantable cardiac device: A case report

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## Abstract

Chronic kidney disease (CKD) is a common disease worldwide. CKD's prevalence and incidence are increasing in the world and hemodialysis still remains as the main treatment for ESRD patients. Different methods are available to create an effective venous access for hemodialysis, like: Arteriovenous fistula (AVF) intravascular catheters and vascular grafts (VGs). Tunneled cuff catheters are the alternative choice when the patient does not accept the surgical procedure to implant AVF or AVF is difficult or contraindicated such as heart failure, peripheral vascular disease, obesity or elderly patients AND Vascular surgeons can keep this method in mind in case of unavailability of AVF or contralateral extremity. Renal dysfunction and cardiac arrhythmias keep company with each other and using an implantable cardiac device (ICD) is raising in end-stage renal disease (ESRD) patients over the time. Internal jugular vein and femoral vein give us good access to insert a tunneled cuff catheter. Choosing a proper site for inserting a TCC is challenging because having a TCC in the ipsilateral site of an ICD lead can raise the probability of being complicated. We present a case that inserting a Tunneled cuff catheter (TCC) ipsilateral to an ICD lead was challenging. Having both TCC and ICD at the same extremity may increase the risk of complications such as thrombosis, infection or catheter dysfunction and femoral catheters are not the choice due to their high rate of complications.

Inserting a TCC, ipsilateral to an ICD lead for long-term hemodialysis in company with an interventional cardiologist, despite of all the complicated risks, can be considered when the other choice is only using a femoral approach to insert a TCC.

**Keywords:** Cuff catheter, Cardiac device, Hemodialysis, Tunneled catheter



# A successful carotid interposition graft using the saphenous vein in a patient with gunshot injuries; a case report

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## Abstract

Gunshot injuries to the head and neck usually result in severe trauma due to damage to major vessels and are often challenging surgical management. We present a 39-year-old female who presented to the emergency department with multiple gunshot injuries to the neck and jaw. The patient was examined by (computed tomography) CT angiography, showing multiple metal densities, an intimal flap, and the presence of a thrombus. Consequently, with a high suspicion of carotid artery injury. The left common carotid artery (CCA) was explored surgically and a carotid interposition graft using the greater saphenous vein was performed for the patient for reconstructing the artery. The recovery was uneventful and the patient was discharged three days after the surgery without neurological side effects and hematoma. In the follow-up CT angiography six weeks after the discharge patent CCA was noticed.

**Keywords:** Carotid interposition, Saphenous vein

## Pelvic arteriovenous malformation (AVM) with hematuria, A case report

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### Abstract

A 36-year-old woman who had complained of gross hematuria since 5 months ago. The patient's hematuria was intermittent and accompanied by the discharge of large clots, which cause anemia. The patient had undergone C/S 4 times; the last time was 2 years ago. Due to hematuria, the patient underwent cystoscopy twice by the urology service, and many clots were discharged from the bladder, but no obvious pathology was seen in the bladder and ureter but there was a small ulcer in urethra. Abdominal and pelvic CT with contrast done for her and a vascular mass was seen in the left lateral part of the pelvis, extending to the bladder neck, which suggested AVM. The patient was operated by the urology service that no clear pathology was seen around the bladder and pelvic cavity in the abdomen during the laparotomy. In our center, the patient underwent angiography and embolization with coil and gel foam in the left internal iliac malformation. After this treatment, the hematuria stopped for several weeks, but the patient returned with severe hematuria. The patient underwent diagnostic angiography again in another center, which showed a complete blockage in the left internal iliac due to the use of multiple coils, and a venous-arterial malformation was seen on the right side related to the right internal iliac, which was embolized with a combination of glue and lipidol. After 7 days because of hematuria did not stop, a venography was performed, and a malformation related to the left iliac vein was seen, and embolization was performed with foam sclerotherapy (fibro vein 3%) and 97% alcohol in the above-mentioned. The patient returned to our center 40 days after the last embolization with gross hematuria, and again underwent right iliac angiography and arterial venous malformation embolization with three vials PVA (7x500). In the follow-up after two months, the patient did not have hematuria. Angioembolization treatment is one of the main methods in the treatment of arteriovenous malformation, but the main point in the treatment is to inform the patient about his disease and that it is possible that he will be operated on several times, and the patient's cooperation to continue the treatment is one of the main principles for the definitive treatment of the patient. An important point in angioembolization is the use of the appropriate material according to the location and general plan to AVM. In general, embolization materials can be permanent such as coils or temporary such as gel foam. Temporary embolization materials are mostly used in cases where the surgical plan should be a next stage because after sometime this embolized material will be resolved and AVM will return.

**Keywords:** AVM, Angiographic embolization, Hematuria

# Temporary hemodialysis catheters: cost effective tools during permanent access maturation, A cross-sectional study

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## Abstract

Nowadays, the number of people who requires chronic hemodialysis has increased, and providing a suitable access method for these patients has become one of the main tasks of vascular surgeons. Arteriovenous fistulas are the best access method for hemodialysis; however, they require an average interval of two months from the implantation to the time of use. Several scientific sources recommend tunnels in this time frame for hemodialysis and advocate temporary catheters for fewer than two weeks, expected to sanctions, and economic and equipment limitations, in some cases, we have had to rely on temporary catheters until the arteriovenous fistula is able to use.

Evaluation outcomes of temporary hemodialysis catheter implantation as long as permanent access prepared in patients with chronic hemodialysis.

This cross-sectional study was conducted in *5th Azar* and *Sayad Shirazi* hospitals in *Gorgan, Iran*, on 74 dialysis patients implanted with a temporary jugular dialysis catheter during arteriovenous fistula implantation. The patients followed up until their fistulas matured, then the function of the temporary dialysis catheter and the need for re-catheterization were investigated. Outcomes were collected prospectively and analyzed by appropriate statistical tests.

39 (52.7%) of the studied subjects were female, 35 (47.3%) were male. The average age of the subjects studied was  $53.03 \pm 14.79$  years. The duration of the temporary dialysis catheter, Temporary Jugular catheter, in the studied patients was  $46.41 \pm 17.13$  days. The longest duration of operation was 78 days. 47 of the investigated cases (63.5%) were still working appropriately at the time of arteriovenous fistula maturation.

Although the duration of using temporary dialysis catheters reported to be limited in studies, it is possible to increase time of using them in patients depending on the conditions and considering some factors. In communities with limited financial resources in the healthcare system and unable to provide permanent catheters based on considerations, this can be a considerable temporary alternative procedure.

**Keywords:** A.V fistula maturation, Catheters, Hemodialysis



# Comparison of bridge fistula in lower limb between synthetic graft and saphenous vein

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## Abstract

Chronic hemodialysis in patients with end-stage renal disease requires appropriate vascular access such as fistula in the limbs, the bridge fistula in the lower limb is one of the options in cases where fistula cannot be placed in the upper limb. The aim of this study is to compare synthetic bridge graft fistula (Gortex) and Saphenous vein graft.

Shahada Tajrish Hospital is one of the referral centers for patients who need access for dialysis. 125 patients who were treated with bridge fistula in this center were 75 men and 50 women. Most of the patients are referred to the admission unit for outpatients and are admitted to the operating room with previous preparation measures, and if they have a suitable saphenous vein, they are candidates for bridge fistula in the thigh, otherwise, a synthetic graft is used.

In this study, in comparison, the percentage and chance of thrombosis in the vein was lower than that of synthetic graft. The percentage of infection in the synthetic graft was very significant compared to the saphenous one ( $p < 0.05$ ). Basically, we showed that the arteriovenous fistula is an acceptable alternative to arteriovenous fistula grafting in the thigh for chronic hemodialysis, and the saphenous bridge vein ring arteriovenous fistula is superior in some aspects to the bridge Gortex ring arteriovenous graft.

**Keywords:** Bridge fistula, Synthetic graft, Saphenous vein

# Treatment of traumatic pseudoaneurysm of the aorta with EVAR

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## Abstract

The introduction of endovascular aneurysm repair (EVAR) has changed how abdominal aortic aneurysm (AAA) is approached, with a dramatic increase in the proportion of AAA treated with EVAR compared to open repair.

A 42-year-old man who underwent a laparotomy due to a gunshot to the abdomen. Due to damage to the left renal artery and small intestine, he underwent a nephrectomy and small intestine repair. The patient was discharged after a week with a good general condition.

After two months, the patient was referred with a pulsating mass in the front of the abdomen, which was performed for the patient. Contrast-enhanced computed tomography (CT) demonstrates abdominal aorta pseudoaneurysm. Considering the history of previous laparotomy and the large pseudoaneurysm around the aorta originating from the nephrectomy site, it was decided to perform EVAR WITH RIGHT RENAL STENTING surgery. In angiography shows with active extravasation of contrast. A 26 x 10 cm stent graft that fits the patient's aorta park in aorta Then, through the brachial sheet, V12 stent graft 70 \*56 mm was opened inside the renal opening and the end the aorta stent was opened in the aorta. After the procedure was completed, no endoleak species was seen in the final angiography.

The advent and proliferation of endovascular techniques has changed the way vascular surgeons approach almost all aspects of vascular disease. Trauma surgery includes injuries to vascular structures, repair of which has traditionally been performed by open technique. Retrospective results of the use of endovascular management of suitably located aortic injuries achieve good aortic results. Open management has been shown to be associated with a higher rate of mortality than management with EVAR, even when adjusted for other injuries and injury severity score.

**Keywords:** Aorta, Endovascular, Pseudo aneurysm

# Review of Resuscitative endovascular balloon occlusion of the aorta (REBOA) in Trauma

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## Abstract

Resuscitative Endovascular Balloon Occlusion of the Aorta (REBOA) is a technique for temporary cessation or limitation of blood flow through the aorta, which may be used as a bridge until definitive control of the bleeding by endovascular procedures or surgery is performed.

Endovascular balloons have been used to control haemorrhage in other settings such as aortic aneurysm surgery, gastro-intestinal bleeding, postpartum haemorrhage, use in medical cardiac arrest. There is no high-grade evidence demonstrating that REBOA improves outcomes or survival compared with standard treatment of severe traumatic hemorrhage.

Among non-compressible torso injuries, we found a positive effect on overall mortality of REBOA when compared to RT. REBOA carries significant risk of life-threatening and limb-threatening complications.

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**Keywords:** Damage control, REBOA

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# Bypass vs Angioplasty in Severe Ischemia of the Leg

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## Abstract

Basil trial represents the only RCT comparing angioplasty to open surgery. After 2 years both AFS and overall survival favored Bypass first surgery. The BASIL trial suggested an advantage to bypass over angioplasty in those patients who live at least 2 years after revascularization. AFS was 40% for Bypass that followed a failed endovascular intervention compared 70% for the bypass only group. Although a causative relationship has not been established the concept of “burning bridges” with an aggressive endovascular first approach clearly deserves further study.

**Keywords:** AFS (Amputation Free Survival), BASIL (Bypass vs Angioplasty in Severe Ischemia of the Leg)