Aneurysm

Hemostatic modifications of the Bentall procedure: Imbricated proximal suture and fibrin sealant reduce postoperative morbidity and mortality rates.

Authors: Della Corte A., Baldascino F., La Marca F., Scardone M., Nappi G., Cefarelli M., De Santo L.S., Pepino P., Cotrufo M., De Feo M.D.

Publication Date: 2012

PMID: 365267221

Abstract:

Bleeding is an important predictor of morbidity and mortality rates after the Bentall operation. This study reports our recent experience with composite aortic root replacement via a slightly modified button-Bentall operation. Fifty-six consecutive patients underwent a Bentall operation on an elective basis from January 2008 through December 2009. In all cases, we used 2 modifications: we imbricated the pledgeted 2-0 polyester interrupted U stitches of the proximal suture line, and at that same suture line we sealed with fibrin glue the possible sources of oozing. The series featured high proportions of associated procedures (25%) and reoperations (23%). The mean cardiopulmonary bypass and aortic cross-clamp times were 166 +/- 50 and 113 +/- 27 min, respectively. No case of operative or hospital (30-day) death was observed. Postoperative drainage amounted to 705 mL (median) on the first postoperative day and 377 mL (mean) on the second. Surgical re-exploration for bleeding was needed in only 1 patient (1.8%). Postoperative acute kidney injury was observed in 5 patients, neurologic complications in 3, and respiratory insufficiency requiring prolonged mechanical ventilation in another 3. Both respiratory and renal complications were significantly associated with greater consumption of blood products (P=0.03 and P=0.001, respectively). We conclude that the combined use of imbricated proximal suture-line stitches and subsequent fibrin-sealant spraying were associated with no deaths and with low rates of bleeding and other adverse postoperative sequelae in our 2-year experience with the Bentall operation in an elective series of patients characterized by a difficult mixture of prognoses.

Full Text:

Not Available

Bronchial Artery Aneurysm Treated With Aortic Stent Graft and Fibrin Sealant.

Authors: Sanchez E., Alados P., Zurera L., Canis M., Munoz I., Casares J., Eguaras M.G.

Publication Date: 2007

PMID: 46135421

Abstract:

Bronchial artery aneurysm occurs rarely but can cause a life-threatening hemorrhage when it ruptures. The traditional therapy has been aneurysm resection or transcatheter arterial embolization. We report a case of mediastinal bronchial artery aneurysm which could not be occluded with transcatheter arterial embolization and instead was treated with a thoracic aortic stent graft and embolization with fibrin sealant.

Full Text:

Not Available

Late limb embolization of biological glue after repair of aortic dissection.

Authors: Furukawa H, Masaki H, Tanemoto K

Publication Date: 2015

PMID: 25661075

Abstract:

Not Available

Full Text:

Not Available

Effect of fibrin glue injection into the cavernous sinus for hemostasis during transcavernous surgery on the cerebral venous draining system.

Authors: Toyooka T., Otani N., Wada K., Tomiyama A., Ueno H., Fujii K., Yamamoto T., Nakao Y., Mori K.

Publication Date: 2017

PMID: 616474090

Abstract:

BACKGROUND: The extradural temporopolar transcavernous approach can be used to treat central skull base pathologies, but control of bleeding from the opened cavernous sinus is essential. Oxidized cellulose cotton packing and fibrin glue injection can be used, but the effect on the postoperative venous draining pattern remains unclear. OBJECTIVE: To investigate changes in the venous drainage pattern immediately after transcavernous surgerywith and without fibrin glue injection into the bleeding cavernous sinus. METHODS: A total of 82 patients treated via the transcavernous approachwere retrospectively divided into 2 groups based on the hemostasis methods. Both pre-And postoperative angiography and/or 3-dimensional computed tomography venography were available for 24 patients in the cotton packing group and 12 patients in the fibrin glue group. RESULTS: Postoperative change in the venous draining pattern was observed in 5 of the 24 patients in the cotton packing group and in 3 of the 12 patients in the fibrin glue group. One of the 82 patients showed postoperative brain swelling due to obstruction of the sphenoparietal sinus. The volume of injected fibrin glue ranged from 0.5 to 2.5 mL (mean, 1.1 +/- 0.5 mL), but none of the patients had brain swelling. CONCLUSION: Direct fibrin glue injection into the opened cavernous sinus is relatively safe, but a change in the venous draining pattern occurs in 25% of patients. The study indicates the potential danger of the change in the venous draining pattern and recommends limiting the injection volume of fibrin glue in transcavernous surgery to avoid complications related to venous congestion.

Full Text:

Not Available

Efficacy and safety of non-suture dural closure using a novel dural substitute consisting of polyglycolic acid felt and fibrin glue to prevent cerebrospinal fluid leakage-A non-controlled, open-label, multicenter clinical trial-.

Authors: Terasaka S., Taoka T., Kuroda S., Mikuni N., Nishi T., Nakase H., Fujii Y., Hayashi Y., Murata J.-I., Kikuta K.-I., Kuroiwa T., Shimokawa S., Houkin K.

Publication Date: 2017

PMID: 615087605

Abstract:

Abstract: The objective of this study is to evaluate the efficacy and safety of non-suture dural closure using a novel dural substitute (GM111) consisting of polyglycolic acid felt with a fibrin-glue-coated area commensurate in size with the dural defect. This was a non-controlled, open-label, multicenter clinical trial. The efficacy evaluation endpoints were (1) GM111's intra-operative capability to close dural defects and (2) prevention of cerebrospinal fluid (CSF) leakage and subcutaneous CSF retention throughout the postoperative period (evaluated by diagnostic imaging). Patients meeting the following three preoperative and two intra-operative selection criteria were enrolled: (1) between 12 and <75 years of age; (2) the dura is surmised to be defective and in need of reconstruction; (3) informed written

consent was obtained from the patient; (4) the surgical wound is class 1; and (5) the size of duraplasty is >=0.2 cm^2 to <100 cm^2. Sixty patients were enrolled. The craniotomy site was supratentorial in 77.2%, infratentorial in 12.3% and sellar in 10.5%. The GM111 prosthesis size ranged from 0.24 to 42 cm^2. To evaluate the efficacy, intra-operative closure was confirmed by Valsalva's maneuver, water infusion, etc., in all patients. CSF leakage and subcutaneous CSF retention throughout the postoperative period were found in four patients. Adverse events for which a causal relationship with GM111 could not be ruled out occurred in 8.8% of the patients. There were no instances of postoperative infection due to GM111. GM111 showed good closure capability and safety when used for non-suture dural closure. Graphical Abstract: [InlineMediaObject not available: see fulltext.]

Full Text:

Not Available

Modified technique for primary dural closure in the lateral suboccipital approach: Dural moisturizing with fibrin glue coating. [Japanese]

Authors: Shimizu S., Mochizuki T., Osawa S., Sekiguchi T., Kumabe T.

Publication Date: 2015

PMID: 605838233

Abstract:

Objective: When employing the lateral suboccipital approach, the thin dura shrinks due to the drying effect of illumination and air exposure, and dural substitutes are often needed for closure. We developed a new technique involving dural moisturizing with fibrin glue coating that facilitates primary dural closure. Patients and Methods: We used this technique in 12 adults who underwent the lateral suboccipital approach for 5 hemifacial spasms, 3 trigeminal neuralgias, 2 cerebellopontine meningiomas, 1 vestibular schwannoma, and 1 vertebral artery aneurysm. Fibrin glue was sprayed on the outer surface before opening the dura, and additionally sprayed on the inner surface of the reflected dural flap after opening the dura. After the intradural procedures the dura was closed with the usual knotted sutures. Results: Dural closure was performed 65-340 minutes (mean: 161.9 minutes) postdurotomy. This technique resulted in primary dural closure with a sufficient area of preserved dura in all but one patient. In this patient, the dura shrank due to coagulation of the dural attachment to the meningioma for which a small autologous substitute was required. There were no procedure-related complications such as cerebrospinal fluid leakage and meningitis. Conclusions: Dural moisturizing with fibrin glue coating is simple, protects the dura from drying and shrinkage, and facilitates primary dural closure in patients undergoing the lateral suboccipital approach.

Full Text:

Not Available

Autologous fibrin sealant (Vivostat) in the neurosurgical practice: Part I: Intracranial surgical procedure.

Authors: Graziano F., Certo F., Basile L., Maugeri R., Grasso G., Meccio F., Ganau M., Iacopino D.G.

Publication Date: 2015

PMID: 611118256

Abstract:

Background: Hemorrhages, cerebrospinal fluid (CSF) fistula and infections are the most challenging postoperative complications in Neurosurgery. In this study, we report our preliminary results using a fully autologous fibrin sealant agent, the Vivostat system, in achieving hemostasis and CSF leakage repair during cranio-cerebral procedures. Methods: From January 2012 to March 2014, 77 patients were studied prospectively and data were collected and analyzed. Autologous fibrin sealant, taken from patient's blood, was prepared with the Vivostat system and applied on the resection bed or above the dura mater to achieve hemostasis and dural sealing. The surgical technique, time to bleeding control and associated complications were recorded. Results: A total of 79 neurosurgical procedures have been performed on 77 patients. In the majority of cases (98%) the same autologous fbrin glue provided rapid hemostasis and dural sealing. No patient developed allergic reactions or systemic complications in association with its application. There were no cases of cerebral hematoma, swelling, infection, or epileptic seizures after surgery whether in the immediate or in late period follow-up. Conclusions: In this preliminary study, the easy and direct application of autologous fibrin sealant agent helped in controlling cerebral bleeding and in providing prompt and efficient dural sealing with resolution of CSF leaks. Although the use of autologous fibrin glue seems to be safe, easy, and effective, further investigations are strongly recommended to quantify real advantages and potential limitations.

Full Text:

Not Available

Cerebrovascular complications and granuloma formation after wrapping or coating of intracranial aneurysms with cotton gauze and human fibrin adhesives: Results from a single-center patient series over a 5-year period.

Authors: Beitzke M., Leber K.A., Deutschmann H., Gattringer T., Poltrum B., Fazekas F.

Publication Date: 2013

PMID: 369994197

Abstract:

Object. Reinforcement of intracranial aneurysms (IAs) by wrapping or coating is a well-established therapeutic approach to those IAs not amenable to any other definitive treatment, but has been associated with complications such as parent artery narrowing, granuloma formation, and ischemic stroke. The goal of this study was to systematically investigate cerebrovascular complications following this procedure. Methods. The authors' hospital database was searched for all patients who underwent wrapping or coating of IAs with cotton gauze and human fibrin adhesives between October 2006 and October 2011. The follow-up records of these patients were extracted, including regular clinical visits and vascular imaging. Results. Five hundred sixty-seven patients were treated for IAs over the 5-year period: 303 patients underwent endovascular strategies and 264 underwent craniotomies. Wrapping or coating of IAs was performed in 20 patients (3.5%). Parent artery narrowing occurred in 5 (25%) of the 20 patients and was associated with major ischemic strokes in 4 patients and severe headache in another. Ischemic strokes were associated with parent artery narrowing, which occurred early postoperatively in 2 patients or was a consequence of granuloma formation in 2 patients 1 and 2 months after the procedure, respectively. Conclusions. These data should add to the awareness of significant cerebrovascular complications following wrapping or coating of IAs with cotton gauze and human fibrin adhesives and indicate that major ischemic strokes need to be included in the risk/benefit considerations during decision making for such treatment strategies. Patients who receive IA wrapping should be monitored and followed up closely for arterial narrowing and granuloma formation. © AANS, 2013.

Full Text:

Not Available

Effect of arachnoid plasty using fibrin glue membrane after clipping of ruptured aneurysm on the occurrence of complications and outcome in the elderly patients.

Authors: Mino Y., Hirashima Y., Hamada H., Masuoka T., Yamatani K., Takeda S., Masuda R., Nogami K., Endo S.

Publication Date: 2006

PMID: 43881783

Abstract:

Background. In elderly patients with aneurysmal subarachnoid hemorrhage (SAH), complications including vasosopasm, subdural effusion, and late hydrocephalus, are liable to occur even after aneurysmal surgery. We examined prospectively the efficacy of arachnoid plasty using fibrin glue membrane during surgery of ruptured aneurysms in the elderly patients for preventing complications. The effects on the modified Rankin scale (mRS) and the Glasgow outcome scale (GOS) 3 months after

SAH were noted. Methods. Total of 31 patients aged more than 70 years selected from a consecutive series of patients with aneurysmal SAH, were divided into two groups alternately, a group with arachnoid plasty (n = 16) and a control group without arachnoid plasty (n = 15). Statistical analyses were performed to assess relationships among various clinical and neuroradiological variables, especially between arachnoid plasty and occurrence of symptomatic vasospasm, subdural effusion, late hydrocephalus, or outcome such as mRS and GOS 3 months after onset. Findings. Statistical analyses revealed that arachnoid plasty were associated with late hydrocephalus and subdural effusion negatively, but with better mRS at 3 months after SAH. A tendency to be associated with less frequent symptomatic vasospasm was also noted. Conclusion. Arachnoid plasty using fibrin glue is suggested to be effective in preventing complications associated with SAH and aneurysmal surgery. A better outcome in the elderly patients can be achieved.

Full Text:

Not Available

Cranial nerve pareses following wrapping of a ruptured dissecting vertebral artery aneurysm: A possible complication of cyanoacrylate glue - Case report.

Authors: Kuroki T., Aoki K., Aoki Y., Nemoto A., Yamazaki T., Katsume M., Takasu N.

Publication Date: 2003

PMID: 36125357

Abstract:

A 51-year-old female with a ruptured dissecting vertebral artery aneurysm underwent an uneventful wrapping technique using Biobond-soaked gauze through a unilateral suboccipital transcondyle approach. On the 3rd postoperative day, she developed pareses of the ipsilateral VII through XII cranial nerves. Daily intravenous administration of 300 mg of hydrocortisone was started. This treatment was continued and dosage was tapered until the 10th postoperative day. The cranial nerve pareses deteriorated until the 8th postoperative day, but slowly resolved by 3 weeks after surgery. The patient was discharged with slight hoarseness and dysphasia 5 weeks after surgery. She had only slight hoarseness at 6 months. This complication was probably due to a neural toxic response to the Biobond.

Full Text:

Not Available

Histological changes in the rat common carotid artery induced by aneurysmal wrapping and coating

materials.

Authors: Herrera O., Kawamura S., Yasui N., Yoshida Y.

Publication Date: 1999

PMID: 129411825

Abstract:

Histological changes in and around the arterial walls of rats were investigated following topical application of aneurysmal wrapping and coating materials, including a fibrin glue, a cyanoacrylate glue (Biobond), and cotton fibers (Bemsheet). Bilateral common carotid arteries were exposed using sterile techniques, and one of the test materials was applied to the right artery. The left artery was used as the control. Changes in arterial histology were evaluated at 2 weeks, 1 month, 2 months, and 3 months after surgery. The fibrin glue was surrounded by intense inflammation at 2 weeks after surgery. Both the fibrin glue and inflammation had disappeared at 2 months, but the glue had induced mild inflammation in the adventitia. Biobond caused chronic inflammation, necrosis of the media, and thickening of the arterial wall due to fibrosis in both the media and adventitia. Bemsheet produced chronic inflammation, progressive fibrosis, and granuloma. Connective tissue increased in the adventitia, but no major changes were observed in the media. The Bemsheet fibers remained unchanged, and adhered to the arterial wall. Although arterial stenoses were not observed in the present study, the results suggest that cyanoacrylate glue can cause the arterial occlusive lesions observed following aneurysm surgery.

Full Text:

Not Available

Arachnoid cyst [1].

Authors: Lorenzana-Honrado L., Cabezudo-Artero J.M., Gozez-Perals L., Taguchi Y., Sekino H., Suzuki R.

Publication Date: 1996

PMID: 26315216

Abstract:

Not Available

Full Text:

Not Available

Spinal arachnoid cyst developing after surgical treatment of a ruptured vertebral artery aneurysm: A possible complication of topical use of fibrin glue: Case report.

Authors: Taguchi Y., Suzuki R., Okada M., Sekino H.

Publication Date: 1996

PMID: 26062882

Abstract:

A case is reported of a 59-year-old man with a spinal arachnoid cyst accompanied by spinal arachnoiditis. The patient developed symptoms after treatment for a ruptured vertebral artery aneurysm, in which fibrin glue was used for reconstruction of the suboccipital bone defect. It is believed that the fibrin glue may have played a role in forming the arachnoid cyst. The authors urge the readers to keep in mind the possibility of subclinical spinal arachnoiditis in the patients with aneurysmal subarachnoid hemorrhage and suggest that care should be taken to avoid any possible adverse effect of fibrin glue.

Full Text:

Not Available

[Thrombin embolization of a pseudoaneurysm of the arterial lingualis after blunt neck trauma]. [German]

Authors: Kaschner M, Strunk H

Publication Date: 2011

PMID: 21935863

Abstract:

Not Available

Full Text:

Not Available

Allergic reaction following arachnoid plasty with a fibrin sealant.

Authors: Kanazawa R, Sato S, Iwamoto N, Teramoto A

Publication Date: 2010

PMID: 20671393

Abstract:

A 65-year-old woman underwent surgical treatment of an unruptured aneurysm in the left middle cerebral artery. Surgical craniotomy using arachnoid plasty with a fibrin sealant was completed without incident, but abrupt neurological deterioration occurred on the 9th postoperative day. Antibiotic treatment was given, but the symptoms did not resolve. Neuroimaging and physical findings indicated allergic reaction rather than infectious process. Therefore, systemic steroids were administered that resulted in dramatic resolution of symptoms. Nine months later, lymphocyte stimulation test of materials used in arachnoid plasty revealed positive response to a component of the combination pair in fibrin glue. The fibrin sealant placement method is a widely accepted and familiar technique, but surgeons should anticipate possible allergic reactions such as those observed in the present case.

Full Text:

Not Available

A novel coating biomaterial for intracranial aneurysms: effects and safety in extra- and intracranial carotid artery.

Authors: Yasuda H, Kuroda S, Nanba R, Ishikawa T, Shinya N, Terasaka S, Iwasaki Y, Nagashima K

Publication Date: 2005

PMID: 15822820

Abstract:

Methyl-2-cyanoacrylate, a widely used material for coating cerebral aneurysm, was recently withdrawn. The aim of the present study was to develop an alternative coating material for cerebral aneurysm, which is safe, effective and stable within the brain. In the first experiment, an aneurysm model of the common carotid artery was produced in a rabbit by the local application of elastase. The aneurysm produced was covered by no material (Group A), a cellulose cotton sheet and conventional methyl-2-cyanoacrylate (Group B), a newly produced polyglycolic acid felt and fibrin glue (Group C), or a cellulose cotton sheet and fibrin glue (Group D). Histological examination showed that the materials resulted in the formation of tight connective tissue around the artery, and that the material was

completely replaced by the connective tissue after 12 weeks. This change was found exclusively in Group C, but not in Group A or the other materials, although a temporary thickening of the intima was also observed at the site of the elastase application in Group C. In Group D, a long-term, marked thickening of the intima was observed. In the second experiment, using an intracranial internal carotid artery from a beagle, the applied polyglycolic acid felt and fibrin glue to the intracranial artery induced the formation of connective tissue around the artery that was completely absorbed 16 weeks after surgery. There were no signs of intimal thickening or of adverse reactions in nervous tissue. The present results suggest that polyglycolic acid felt and fibrin glue is a possible candidate for a safe, effective biomaterial to wrap or coat cerebral aneurysm.

Full Text:

Not Available

A new aneurysm wrapping material: polyglactin 910 + fibrin sealant.

Authors: Uzan M, Hanci M, Kuday C, Akar Z, Shamsi AA, Ozlen F, Oz B, Deniz E

Publication Date: 1996

PMID: 8837106

Abstract:

Aneurysms experimentally induced by using the silver nitrate coagulation method in 10 Wistar Albino rats are wrapped with Polyglactin 910 and Fibrin Sealant. 6 weeks later the rats are sacrificed and compared with the control group. In the group in which Polyglactin 910 and Fibrin Sealant were used as the wrapping material, non-specific inflammatory granulation tissue development around the aneurysms is observed. We suggest that a Polyglactin 910 and Fibrin Sealant combination can be used as a wrapping material in the treatment of aneurysms where clipping is not possible.

Full Text:

Not Available

[Experimental study of aneurysmal occlusion with fibrin glue]. [Japanese]

Authors: Suga T, Sugawara T, Yoshimoto T, Takahashi A, Kohshu K

Publication Date: 1992

PMID: 1508313

Abstract:

The authors report an experimental trial of intra-aneurysmal occlusion using fibrin glue. Nowadays, with the development of microsurgical techniques and aneurysmal clips, results of direct radical operations have been improving. But quite a few aneurysms cannot be clipped because of their size, location, broad neck etc. Some authors have treated these aneurysms with innovative techniques (detachable balloon techniques etc). In these methods, the occlusive state of the aneurysms is not always obtainable because of the size of their neck. Besides, it is not always possible to preserve the parent arteries of the aneurysms. Experimental aneurysms in cervical carotid arteries of dogs are treated by direct injection with fibrin glue. During its injection, influx of fibrin glue was prevented by occlusion of the aneurysmal orifices with inflated polyethylene angioplastic balloons. The aneurysms which were completely (100%) filled by the injection of fibrin glue (100% infused group) were totally obliterated in 10 (71%) of the 14 cases. The parent arteries were completely preserved in all instances. Follow-up study demonstrated satisfactory maintenance of this occluded state in the aneurysms in the 100% infused group. In completely occluded cases, all aneurysms maintained this state. On the other hand, 1 of the 4 incompletely obliterated aneurysms recanalized partially. These occluded aneurysms were studied by a light microscope (LM) and a scanning electron microscope (SEM). At day 7 after the occluding procedure, the margin of the aneurysmal orifice was covered by a layer of fibroblasts. At day 21, almost half of the aneurysmal cavity had been substituted with connective tissue. The orifice of the aneurysms was covered with an endothelial layer.(ABSTRACT TRUNCATED AT 250 WORDS)

Full Text:

Not Available

Treatment of type I endoleak after endovascular repair of infrarenal abdominal aortic aneurysm: Success of fibrin glue sac embolization.

Authors: Lu Q., Feng J., Yang Y., Nie B., Bao J., Zhao Z., Feng X., Pei Y., Yuan L., Mei Z., Feng R., Jing Z.

Publication Date: 2010

PMID: 360155061

Abstract:

Purpose: To analyze a single-center experience of fibrin glue sac embolization to eliminate type I endoleaks after endovascular aneurysm repair (EVAR), assessing the feasibility and effectiveness of the technique in long-term follow-up. Methods: A retrospective study was conducted involving 783 EVAR patients treated between August 2002 and February 2009. Under a standardized protocol, 42 (5.4%) patients (37 men; mean age 73+/-8 years) underwent intraoperative transcatheter fibrin glue sac embolization to resolve type I endoleak persisting after initial intraoperative maneuvers to close the leak or in necks too short or angulated for cuff placement. Intrasac pressure was measured before and after glue injection. Computed tomographic angiography was performed to assess the outcome after 3, 6, and 12 months and annually thereafter. Results: In this type I endoleak cohort, 16 (38.1%) patients had proximal necks <10 mm long, and 5 (11.9%) patients had proximal neck angulation >60degree; 22

additional devices (8 stents, 14 cuffs) had been placed in the initial attempts to resolve the endoleaks.After fibrin glue injection, 41 (97.6%) of the 42 endoleakswere resolved using amean 15+/-10mLof glue. Intrasac pressure decreased significantly in successfully treated cases. The patient who failed embolotherapy was converted to open surgery (2.4%); he died 2 months later from multiorgan failure. Two (4.8%) patients died in the perioperative period frommyocardial infarction. One (2.4%) patient developed right lower extremity ischemia unrelated to the fibrin glue treatment. Therewere no allergic reactions.Over amedian follow-up of 39.9months (range 10-88), 3 (7.1%) patients died (1 aneurysm-related). Cumulative survival was 90.5% at 1 year, 87.0% at 3 years, and 82.6% at 5 years. The mean maximal aneurysm diameter fell from the baseline 59.5+/-14.7 mm to 49.0+/-11.6 mm ($p<0.001$). Of the 4 patients with increased aneurysm diameter during follow-up, 1 was converted, 2 are being observed due to advanced age, and 1 died of renal failure. No recurrent type I endoleak or glue-related complications were observed in follow-up. Conclusion: Fibrin glue sac embolization to eliminate type I endoleak after EVAR yielded excellent results in our experience, effectively and durably resolving the leaks. Balloon occlusion of the proximal aorta must be done during glue injection to block proximal flow and facilitate formation of a structured fibrin clot.

Full Text:

Not Available

Impressive closure of a sustaining periprosthetic endoleak (type II) using fibrin glue application after former endovascular placement of an infrarenal aortic prosthesis.

Authors: Meyer F., Ricke J., Pech M., Lippert H., Halloul Z.

Publication Date: 2009

PMID: 50343778

Abstract:

Not Available

Full Text:

Not Available

Percutaneous stone surgery utilizing tubeless technique with fibrin sealant: Report of our first 100 cases.

Authors: Durbin J., Stroup S., L'esperance J., Auge B.

Publication Date: 2009

PMID: 70026566

Abstract:

Background: Percutaneous nephrolithotomy (PCNL) is the preferred treatment for large renal stones, and the tubeless technique for select patients has recently gained popularity. Several iterations of the procedure have been described. We report on our first 107 PCNL patients utilizing fibrin sealant as a hemostatic agent within the access tract. Methods: A retrospective review was completed for PCNL performed without nephrostomy tube from January 2002 to July 2008. We assessed demographics, length of hospital stay, stone size, stone free rates and complications. Stone free results were obtained by post-operative CT scan the morning following the procedure. Results: Fifty-nine men and 48 women with a mean age of 43 years were included in the analysis. Mean stone size was 2.9 cm and the average length of hospital stay was 1.07 days. Immediate targeted stone free rate in the tubeless group was 72% (77/107) which improved to 90% when considering residual fragments <=4 mm as stone free. The change in serum creatinine, hemoglobin and hematocrit were all statistically different when comparing preop and postop values, however, the change in creatinine was clinically insignificant (0.92mg/dl preop to 0.96mg/dl postop). Complications included seven asymptomatic subcapsular hematomas, one pseudoaneurysm requiring selective embolization, one urine leak and 5 return visits to the emergency room for pain. Conclusion: Tubeless PCNL remains a viable option for select patients. The specific technique utilized is dependent upon physician preference. The application of fibrin sealant to the nephrostomy tract can alleviate drainage in the immediate postoperative period.

Full Text:

Not Available

Effect of fibrin adhesive application in microvascular anastomosis: Reply [12].

Authors: Cho A.B., Mattar Jr. R.

Publication Date: 2007

PMID: 47067529

Abstract:

Not Available

Full Text:

Not Available

Assessment of the thrombogenic effect of fibrin sealant dressing in a vascular surgery model in rabbits.

Authors: Kheirabadi B.S., Sieber J., Holcomb J.B.

Publication Date: 2006

PMID: 44768481

Abstract:

This study's objective was to investigate the potential thrombogenic effects of thrombin-containing fibrin sealant dressings (FSD) in a vascular repair model. Oval-shaped pieces of the rabbit abdominal aorta and vena cava were excised, the injuries were repaired with FSD, and animals were allowed to recover. Thrombus formation was examined by (1) an infusion of indium-labeled platelets into the rabbits following FSD application and estimation of total number of platelets attached to the wounds at 2, 4, and 6 h later (short-term effect, n = 12); and by (2) morphological and histological examinations of the vessels and dressings on days 1, 3, and 7 after repair operation in another group of rabbits (long-term effect, n = 12). Application of FSD sealed the vascular injures and produced immediate hemostasis that was stable up to 1 week. The highest numbers of platelets (both native and labeled) adhered to the arterial and venous repair sites were 6.5×10^6 and 4.4×10^7, respectively, 6 h after operation. The adhered platelets, however, did not form a visible and clinically significant thrombus. In long-term experiments, no evidence of thrombus was found in the lumens of the repaired vessels or on the dressings, and no microthrombi were detected histologically in other tissues at any time point. Although vena caval injuries showed signs of healing at day 7 postoperatively, the aortic wounds expanded progressively (pseudoaneurysm) and were prone to rupture at later times. Thus, direct exposure of FSD does not cause intravascular thrombosis or thrombotic events in rabbits. The dressing appears to be safe and effective for short-term repair of vascular injuries. It may also allow healing of minor venous defects, but cannot replace conventional surgical techniques (suturing) for permanent repair of arterial damages.

Full Text:

Not Available

Combined endovascular stent grafting and endoscopic injection of fibrin sealant for aortoenteric fistula complicating esophagectomy.

Authors: Mok V.W.K., Ting A.C.W., Law S., Wong K.H., Cheng S.W.K., Wong J.

Publication Date: 2004

PMID: 40037294

Abstract:

A 67-year-old man with previous total gastrectomy and roux-en-Y esophagojejunostomy had hematemesis 4 weeks after esophagectomy performed because of carcinoma of the esophagus. Investigation showed an aortojejunal fistula with a thoracic aortic pseudoaneurysm. Endovascular stent grafting of the pseudoaneurysm, followed by endoscopic injection of fibrin sealant for the fistula, was performed, and the infection was controlled with broad-spectrum antibiotic agents together with drainage and daily irrigation of the pseudoaneurysm sac. The fistula subsequently healed. The patient remained well 14 months after the procedure; follow-up computed tomograms at 12 months did not show any pseudoaneurysm, and there was no evidence of reopening of the fistula.

Full Text:

Not Available

Venous microanastomoses by fibrin glue versus standard technique. [Italian]

Authors: Pelayo Salas A., Perez Ruiz L., Marco Estarreado L., Guidolin D., Del Carmen Garces Guallart M.

Publication Date: 2002

PMID: 34875573

Abstract:

Background. The goal of this study is to compare the usual surgical technique with the use of fibrin glue, which is faster to perform and has few histological alterations in the anastomosis. Methods. We performed 70 microanastomoses on the internal jugular vein of the Sprague-Dawley rats, and we estimated: immediate and late permeability and postoperative complication. Besides, we made a histological study of all the anastomoses on the 15^{th} day and after one month of the intervention. Results. The middletime request to practise the microanastomosis is significantly shorter when using the fibrin glue. The late permeability rate with standard suture is 97 and 77% with fibrin glue. The number of complications is similar, even if we found a 14.7% rate of aneurysms in the anastomosis with fibrin glue. The histological study showed few alterations to the vascular wall in the fibrin seal group and a great permanent histopathological alteration in the standard technique. Conclusions. The use of fibrin glue is a very good technique for this kind of microanastomosis. It is fast to perform, has few histological alterations and a similar permeability rate although careful approximation of the vascular edges is necessary to get a good anastomosis.

Full Text:

Not Available

Effectiveness of a new non-thrombogenic bio-adhesive in microvascular anastomoses.

Authors: Dowbak G.M., Rohrich R.J., Robinson Jr. J.B., Peden E.

Publication Date: 1994

PMID: 25010893

Abstract:

Negatively-charged fibrin glue was successfully prepared by combining human cryoprecipitate with succinic anhydride. The resulting bio-adhesive was tested for thrombogenicity and tensile strength by applying it to three groups of Sprague-Dawley rat femoral-artery anastomoses (6 suture, 2 suture, and no suture anastomoses). Anastomoses were tested by a standard patency test over 7 days. Both the 6-suture and 2-suture anastomoses with negatively- charged fibrin glue had 100 percent patency rates and no pseudoaneurysm formation over 7 days. When positively-charged fibrin glue was applied to sutured anastomoses, patency rates decreased gradually to 50 percent over 7 days. Fibrin glue alone (whether negatively- or positively-charged) does not have the tensile strength to maintain an anastomosis without sutures. However, when applied to a two-suture anastomosis, the breaking strength of the anastomosis is more enhanced by the negatively-charged fibrin glue.

Full Text:

Not Available

Reconstruction of an aneurysm of the abdominal aorta by means of a single-ring intraluminal bifurcation fibrin-impregnated prosthesis. [Czech]

Authors: Wiesner K.

Publication Date: 1989

PMID: 20057533

Abstract:

The author reports on his initial experience with the use of an intraluminal prosthesis of his own design, used in radical operations of aneurysms of the abdominal aorta in the subrenal portion. He demonstrates on his material that this prosthesis implanted by intraluminal stitchless technique significantly reduces the time of clamping of the aorta and the total time needed for the operation. If the prosthesis is moreover fibrin-impregnated, blood losses associated with preliminary clotting as well as the period of aortal clamping are eliminated. The author recommends further to change the sequence of stitching of anastomoses. All mentioned factors: the time needed for operation, blood loss and the

shortest time of necessary clamping of the aorta are closely linked with the results of operation. It appears that by means of this technique the operation of abdominal aortal aneurysms can be performed within a shorter time with a smaller blood loss. From the small group of patients operated hitherto by this method so far no general conclusions can be drawn on results of operations. Hitherto achieved results are very good.

Full Text:

Not Available

Enhancement of CO2 laser microvascular anatomoses by fibrin glue.

Authors: Grubbs Jr. P.E., Wang S., Marini C., Basu S., Rose D.M., Cunningham Jr. J.N.

Publication Date: 1988

PMID: 18188489

Abstract:

Laser-assissted microvascular anastomoses (LAMA) are characterized by low early bursting strength and high aneurysm rates. The effects of fibrin glue on bursting strength (BS), patency, and aneurysm rate of LAMAs were compared to standard suture and laser anastomosis. Rat femoral arteries (0.9-1.1 mm) were anastomosed end-to-end by three methods: (1) conventionally with 8 to 10 interrupted 10-O nylon sutures; (2) 3 stay sutures and CO2 laser (spot size, 0.275 mm; pulse, 0.2 sec, 80 mW); and (3) cryoprecipitated fibrinogen, 35 mg/cc, crystallized thrombin, CaCl, 20 mg/cc, aprotinin (2000 kIU/cc) applied to weld site in conjunction with laser weld as in (2) above. Patency, aneurysms, and histology were evaluated at 3 weeks, and BS (mm Hg) was measured in six additional vessels at 1 and 24 hr. There was no statistically significant difference in patency rates. Both the suture and fibrin glue groups had significantly higher 1 and 24 hr bursting strengths ($P < 0.05$) and significantly lower aneurysm rates ($P < 0.001$) than standard laser. There was no significant difference in bursting strength between suture and fibrin glue groups. Histology in the fibrin glue group showed medial damage similar to the LAMA and calcification of aneurysmal vessels. Fibrin glue enhancement of LAMAs produces equal patency, higher early bursting strengths, and fewer aneurysms at 3 weeks compared to conventional laser.

Full Text:

Not Available

Clinical experience with high porosity knitted grafts in surgical repair of thoracic aneurysms using fibrin glue under extracorporeal circulation. [Japanese]

Authors: Hirose H., Nakano S., Matsuda H.

Publication Date: 1987

PMID: 17073385

Abstract:

Not Available

Full Text:

Not Available

Outcomes of endovascular aneurysm repair with contemporary volume-dependent sac embolization in patients at risk for type II endoleak.

Authors: Piazza M, Squizzato F, Zavatta M, Menegolo M, Ricotta JJ 2nd, Lepidi S, Grego F, Antonello M

Publication Date: 2016

PMID: 26432285

Abstract:

OBJECTIVE: The aim of this study was to evaluate outcomes of intraoperative aneurysm sac embolization during endovascular aneurysm repair (EVAR) in patients considered at risk for type II endoleak (EII), using a sac volume-dependent dose of fibrin glue and coils. METHODS: Between January 2012 and December 2014, 126 patients underwent EVAR. Based on preoperative computed tomography evaluation of anatomic criteria, 107 patients (85%) were defined as at risk for EII and assigned to randomization for standard EVAR (group A; n = 55, 44%) or EVAR with intraoperative sac embolization (group B; n = 52, 42%); the remaining 19 patients (15%) were defined as at low risk for EII and excluded from the randomization (group C). Computed tomography scans were evaluated with OsiriX Pro 4.0 software to obtain aneurysm sac volume. Freedom from EII, freedom from EII-related reintervention, and aneurysm sac volume shrinkage at 6, 12, and 24 months were compared by Kaplan-Meier estimates. Patients in group C underwent the same follow-up protocol as groups A and B. RESULTS: Patient characteristics, Society for Vascular Surgery comorbidity scores (0.99 +/- 0.50 vs 0.95 +/- 0.55; P = .70), and operative time (149 +/- 50 minutes vs 157 +/- 39 minutes; P = .63) were similar for groups A and B. Freedom from EII was significantly lower for group A compared with group B at 3 months (58% vs 80%; P = .002), 6 months (68% vs 85%; P = .04), and 12 months (70% vs 87%; P = .04) but not statistically significant at 24 months (85% vs 87%; P = .57). Freedom from EII-related reintervention at 24 months was significantly lower for group A compared with group B (82% vs 96%; P = .04). Patients in group B showed a significantly overall mean difference in aneurysm sac volume shrinkage compared with group A at 6 months (-11 +/- 17 cm(3) vs -2 +/- 14 cm(3); P < .01), 12 months (-18 +/- 26 cm(3) vs -3 +/- 32 cm(3); P = .02), and 24 months (-27 +/- 25 cm(3) vs -5 +/- 26 cm(3); P < .01). Patients in group C had the lowest EII rate compared with groups A and B (6 months, 5%; 12 months, 6%; 24 months, 0%) and no EII-related reintervention. CONCLUSIONS: This randomized

study confirms that sac embolization during EVAR, using a sac volume-dependent dose of fibrin glue and coils, is a valid method to significantly reduce EII and its complications during early and midterm follow-up in patients considered at risk. Although further confirmatory studies are needed, the faster aneurysm sac volume shrinkage over time in patients who underwent embolization compared with standard EVAR may be a positive aspect influencing the lower EII rate also during long-term follow-up.

Full Text:

Not Available

Experiences with TachoSil in microneurosurgery.

Authors: Kivelev J, Gohre F, Niemela M, Hernesniemi J

Publication Date: 2015

PMID: 26136196

Abstract:

BACKGROUND: We analyze our experience of using TachoSil (Takeda Austria GmbH: Linz, Austria) in microneurosurgical procedures as a hemostat and also as a sealant to patch dural defects. MATERIALS AND METHODS: Beginning on January 1, 2012, we prospectively analyzed 100 consecutive surgeries where TachoSil was used. The patient group included 58 women (58 %) and 42 men (42 %); the mean age was 52 years (range, 3-85 years). Indications for surgery included removal of the tumor (53 cases; 53 %), clipping of the cerebral arterial aneurysm (31 cases; 31 %), and treatment of other pathologies, including AVM (four cases; 4 %), cavernomas (four cases; 4 %), spinal tumor, and traumatic subdural hematoma. Patients received postoperative care according to local neurosurgical department protocol, including a postoperative CT scan after each craniotomy. Primary assessment of the wound took place during the hospital stay as well as at discharge or transfer to a rehabilitation unit. Mean follow-up time was 4 months (range, 1-12 months). RESULTS: None of the patients developed postoperative hematoma after craniotomy or spinal procedure. At primary assessment during hospital stay, 93 patients (93 %) had had no wound-related problems over the normal course of healing. No case registered any liquor leak from the wound, and none of the patients showed any signs of allergic response related to TachoSil usage. At the last follow-up, 96 patients (96 %) experienced uneventful wound healing, and in four patients (4 %), superficial wound infection was successfully treated with oral antibiotics. CONCLUSIONS: Our results indicate that TachoSil can serve in neurosurgical practice at no additional risks. TachoSil proved to be an effective hemostat, sealant, and adhesive in either cranial or spinal procedures.

Full Text:

Not Available

The use of surgical glue in acute type A aortic dissection. [Review][Erratum appears in Gen Thorac

Cardiovasc Surg. 2014 Apr;62(4):214]

Authors: Suzuki S, Masuda M, Imoto K

Publication Date: 2014

PMID: 24254987

Abstract:

Acute type A aortic dissection (AAAD) remains a lethal disease. With advances in operative methods and perioperative management, surgical outcomes continue to improve, but in-hospital mortality still ranges from 10 to 30% in most series. The surgical technique of choice for aortic root repair remains controversial. Surgical glue created a breakthrough in surgery for acute aortic dissection. We review the surgical techniques with the use of surgical glue for AAAD.

Full Text:

Not Available

Intraoperative intrasac thrombin injection to prevent type II endoleak after endovascular abdominal aortic aneurysm repair.

Authors: Zanchetta M, Faresin F, Pedon L, Ronsivalle S

Publication Date: 2007

PMID: 17484533

Abstract:

PURPOSE: To report a prospective, nonrandomized pilot study to determine whether fibrin glue aneurysm sac embolization at the time of endovascular aneurysm repair (EVAR) is a safe and effective procedure to primarily prevent type II endoleaks. METHODS: Between June 2003 and December 2005, 84 consecutive patients (79 men; mean age 73.8+/-7.8 years, range 64-86) with degenerative infrarenal abdominal aortic aneurysm underwent EVAR with bifurcated stent-grafts and fibrin glue injection into the aneurysm sac at the conclusion of the endovascular procedure. A total of 424 imaging studies and 348 visits were recorded during the study period and reviewed. RESULTS: Selective catheterization of the aneurysm sac and fibrin glue injection immediately after initial stent-graft deployment was successful in 83 (99%) of 84 cases; there was one failure to access the excluded aneurysm sac due to severe iliac artery calcification. The estimated primary and assisted clinical success rates at 2 years were 91.3% and 98.8%, respectively, but the major findings were the low rate of delayed type II endoleak (2.4%) and the statistically significant decrease in the maximum transverse aneurysm diameter (50.40+/-6.70 versus 42.03+/-6.50 mm, p = 0.0001) at follow-up. In addition, of 31 patients available for 24-month follow-up, 14 (45.2%) patients showed a reduction in maximum transverse

aneurysm diameter by >or=5 mm; 16 (51.6%) patients had no significant changes, whereas only 1 patient showed a >5-mm enlargement. CONCLUSION: This clot engineering approach to aneurysm sac embolization at the time of endografting appears to be safe and may spare the patient a repeated catheter-based intervention or surgical procedure.

Full Text:

Not Available

Type II endoleak: from treatment of a complication to prevention.

Authors: Ronsivalle S, Faresin F, Franz F, Rettore C, Zanchetta M, Olivieri A

Publication Date: 2012

PMID: 22313214

Abstract:

Not Available

Full Text:

Not Available

Commentary: reduction of type II endoleak using embolization of the aneurysm sac during EVAR.

Authors: Jonker FH, Aruny J, Moll FL, Muhs BE

Publication Date: 2010

PMID: 20681770

Abstract:

Not Available

Full Text:

Not Available

Aneurysm sac "thrombization" and stabilization in EVAR: a technique to reduce the risk of type II endoleak.

Authors: Ronsivalle S, Faresin F, Franz F, Rettore C, Zanchetta M, Olivieri A

Publication Date: 2010

PMID: 20681769

Abstract:

PURPOSE: To evaluate the reduction in type II endoleak risk after introducing a new prevention method, "thrombization" or clotting of the aneurysm sac, during endovascular aneurysm repair (EVAR) versus the standard EVAR technique. METHODS: From September 1999 to December 2008, 469 consecutive patients underwent EVAR for AAA at our institution. In 2003, the injection of fibrin glue with or without microcoils into the aneurysm sac was added to the EVAR treatment plan ("thrombization" technique). Patients who did not meet the inclusion criterion (at least 1-year follow-up imaging) were censored at the end of 2007, leaving 404 patients eligible for the study: 224 patients (210 men; mean age 71.9+/-8.5 years, range 25-88) undergoing EVAR alone from September 1999 to May 2003 (group 1) compared to 180 patients (161 men; mean age 72.6+/-8 years, range 46-89) who underwent EVAR + thrombization from June 2003 to December 2006 (group 2). RESULTS: The 2 treatment groups were similar with regard to aneurysm morphology. No allergic or anaphylactic reactions were encountered related to the fibrin glue. Over median follow-up times of 72 months in group 1 and 26 months in group 2, there were 34 (15.2%) endoleaks in group 1 versus 4 (2.2%) in group 2 ($p<0.0001$). The incidence of type II endoleak was 0.25/100 person-months for group 1 versus 0.07/100 person-months for group 2. The preventive sac thrombization technique was significantly associated with a reduced risk of type II endoleak (HR 0.13, 95% CI 0.05 to 0.36; $p<0.0001$) regardless of the type of stent-graft fixation (infrarenal versus suprarenal). CONCLUSION: The preventive method of intrasac "thrombization" using fibrin glue injection with or without the insertion of coils proves to be a simple, low cost, safe, and effective technique to significantly reduce the risk of type II endoleaks irrespective of the endograft used.

Full Text:

Not Available

Intrasac fibrin glue injection after platinum coils placement: the efficacy of a simple intraoperative procedure in preventing type II endoleak after endovascular aneurysm repair.

Authors: Pilon F, Tosato F, Danieli D, Campanile F, Zaramella M, Milite D

Publication Date: 2010

PMID: 20378698

Abstract:

OBJECTIVES: To verify in our experience if fibrin glue injection into the aneurysm sac, made at the end of endovascular aneurysm repair (EVAR), can reduce type II endoleak rates. METHODS: Between January 2005 and February 2008, 38 patients underwent EVAR for an unruptured abdominal aortic aneurysm. The first 20 consecutive patients (Group A) had standard EVAR while the last 18 patients (Group B) had EVAR with fibrin glue injection into the sac, regardless of type II endoleak's presence. RESULTS: There was no statistically significant difference between the two groups concerning the surgical time and the time of X-ray exposure (P=0.30 and 0.54, respectively). Type II endoleak rate was significantly higher in Group A compared to Group B (6 cases, 30% vs. 1 case, 5.5%, respectively, P=0.05). Primary short-term clinical success was 95% and 100%, respectively. At 12 months, selective lumbar embolization was performed in two patients in Group A and in one patient in Group B. Patients in Group A had less computed tomography (CT) studies than patients in Group B (2.0 vs. 1.2, respectively, P=0.024). CONCLUSIONS: Fibrin glue injection is a safe procedure and seems to reduce type II endoleak rates. Patients who received this procedure had fewer CT examinations, with reduced health-care costs.

Full Text:

Not Available

Midterm results of aortic repair using a fabric neomedia and fibrin glue for type A acute aortic dissection.

Authors: Nakajima T, Kawazoe K, Kataoka T, Kin H, Kazui T, Okabayashi H, Niinuma H

Publication Date: 2007

PMID: 17462367

Abstract:

BACKGROUND: Controversy exists concerning the optimal surgical treatment of acute type A aortic dissection to reduce mortality rate and the need for reoperation. The goal of the present study was to evaluate midterm results of repair using a fabric and fibrin glue for acute type A aortic dissection. METHODS: From 1994 to 2005, 100 patients with acute type A aortic dissection underwent supracommissural graft replacement using a fabric as "neomedia" and fibrin glue. Mean patient age was 65.7 +/- 11.3 years. RESULTS: Hospital mortality was 9%. All 91 survivors underwent follow-up evaluation for a mean period of 47.7 months. Aortic regurgitation was restored to non or mild in 46 survivors who had preoperative aortic regurgitation in the immediate period, and only one patient developed moderate aortic regurgitation in the midterm period. Survival at 1, 5, and 10 years including hospital mortality was 89.0 +/- 3.1%, 75.2 +/- 5.1%, and 59.2 +/- 10.9%, respectively. Reoperation for aortic lesion was performed without mortality in three patients (residual dissection, n = 1; sinus of

Valsalva dilatation, n = 1; acute redissection, n = 1). During two late reoperations, the fabric was observed to be firmly adherent to the dissected wall and maintained the shape of the aorta. Freedom from aortic reoperation was 98 +/- 2% and 98 +/- 2%, at 5 and 10 years, respectively. CONCLUSIONS: Supracommissural aortic replacement using a fabric neomedia and fibrin glue resulted in low early and late mortality as well as a low reoperation rate.

Full Text:

Not Available

A randomised trial of fibrin sealant in peripheral vascular surgery.

Authors: Milne AA, Murphy WG, Reading SJ, Ruckley CV

Publication Date: 1996

PMID: 9123925

Abstract:

In a prospective randomised trial 39 patients undergoing either arterial bypass surgery with a polytetrafluoroethylene (PTFE) bypass graft (n = 18) or aortic aneurysm repair with a woven Dacron graft (n = 21) were randomised either to receive fibrin sealant as a topical haemostatic agent at the arterial anastomosis or to act as control. The main outcome measure was the time taken to achieve haemostasis at the suture line. The median time to achieve haemostasis was 0.5 min (range 0-11 min) in the treatment group and 4 min (range 0-21 min) in the control group. This difference was statistically significant $p < 0.014$ by the Mann-Whitney test. Immediate haemostasis on release of the clamps was achieved in 13/21 patients in the treatment group and in 4/18 patients in the control group ($p = 0.023$ by Fisher's exact test). There was no difference in total operative time or operative blood loss. No patients in the treatment group suffered any perioperative thromboembolic event and 1 patient in the control group suffered an early graft occlusion. There was no evidence of transmission of hepatitis B or C, or parvovirus B19. In conclusion, fibrin sealant is an effective topical haemostatic agent for arterial suture lines involving PTFE or woven Dacron.

Full Text:

Not Available

Avoiding blow-out of the aortic stump by reinforcement with fibrin glue. A report of two cases.

Authors: Glimaker H, Bjorck CG, Hallstensson S, Ohlsen L, Westman B

Publication Date: 1993

PMID: 8513919

Abstract:

Generally vascular surgeons agree that the most rational way to treat a patient with an infected aortic graft or aortoenteric fistula is excision of the graft, closure of the aortic stump and construction of an axillobifemoral bypass. Due to the feared complication of blow-out of the aortic stump, other solutions have been proposed, such as in-situ reconstruction with homologous saphenous veins or even with a synthetic graft, provided the perigraft fluid is non-purulent. Since this alternative is not always feasible, various methods to reinforce the closure of the aortic stump have been proposed. The present report describes two cases, where fibrin glue (Tisseel) was successfully used to reinforce the suture row of the aortic stump.

Full Text:

Not Available

Prevention of type ii endoleaks by coils and fibrin glue embolization of the aneurysmatic sac.

Authors: Menegolo M., Frigatti P., Antonello M., Lepidi S., Morelli I., Scrivere P., Grego F.

Publication Date: 2011

PMID: 71660599

Abstract:

Objective: Type II endoleaks are the most common 'complication' after EVAR. Their incidence is various in many series reported and their significance and treatment have been long debated. It seems to be generally agreed that the treatment of type II endoleaks is recommended in case of growth of aneurysm diameter. The purpose of this study is to evaluate if the routinely intra-sac embolization with coils and fibrin glue during EVAR is a safe and effective procedure to reduce the incidence of type II endoleaks and the incidence of re-intervention after EVAR. Methods: From January 2009 to August 2010 63 patients underwent EVAR, emergency procedure are not considered here. Forty-two patients have been treated in 2009 without sac embolization (group A) while, from January 2010, 21 patients underwent EVAR + routine intra sac embolization at the end of the endovascular procedure (Group B): 20 of these patients have been treated by intra sac positioning of coils (19 cases Tornado and one case Balt), 17 patients were treated also with injections of fibrin glue (TissueColl), one patient had only coils and one only fibrin glue. All patients underwent a 30 days postoperative CT-scan. Results: In 30 days the incidence of type II endoleaks in Group A was 14.3% (Six cases) and in group B was 4.8% (one case). In Group B no adjunctive surgical procedure were needing and no type I endoleaks were observed. Conclusions: The sac embolization with coils and fibrin glue at the time of endograft placement seems to be a safe procedure for prevention of type II endoleaks. Considering that literature reports a global incidence of reoperation for type II endoleaks of 55%, seen the reductions of incidence of type II endoleak after this procedure, we can estimate a reduction of re-interventions of about 5.3% with a relevant cost saving for the national health system. Moreover, the absence of type I (A or B) endoleaks in all the cases treated seems to confirm the effectiveness of the technique also in the

stabilization of the sac giving high fixation to the endograft.

Full Text:

Not Available

Hemostatic effectiveness of a new application method for fibrin glue, the "rub-and-spray method", in emergency aortic surgery for acute aortic dissection.

Authors: Minato N., Katayama Y., Yunoki J., Kawasaki H., Satou H.

Publication Date: 2009

PMID: 355311992

Abstract:

Purpose: This study was performed to evaluate the clinical hemostatic effectiveness of a new application method for fibrin glue, the rub-and-spray method, in aortic surgery. Methods: Twenty consecutive patients undergoing emergency ascending aorta or ascending- hemiarch replacement for Stanford type A acute aortic dissection were prospectively randomized into 2 groups, one with the rub-and-spray method (group G, 10 patients) and one without fibrin glue (group C, 10 patients). The rub-and-spray method consists of using a finger to rub the fibrinogen solution over needle holes, then spraying the fibrinogen solution and the thrombin solution simultaneously over the anastomosis, using an application nozzle. The number of bleeding needle holes at the proximal and distal anastomoses just after reperfusion, the hemostatic period (time from administration of protamine sulfate until closure of the pericardium), and the amounts of blood losses during this hemostatic period were measured. Results: The values in group G and group C were as follows: proximal needle holes (26.8 +/- 1.5, 26.4 +/- 2.4, p = 0.466); proximal bleeding needle holes (0.2 +/- 0.4, 19.3 +/- 3.5, p <0.001); distal needle holes (28.7 +/- 2.5, 27.8 +/- 4.4, p = 0.675); distal bleeding needle holes (1.3 +/- 1.2, 19.9 +/- 5.0, p <0.001); estimated bleeding proportion of the proximal needle holes (0.7 +/- 1.6%, 73.8 +/- 16.0%, p <0.001); estimated bleeding proportion of the distal needle holes (4.4 +/- 3.7%, 71.9 +/- 15.7%, p <0.001); estimated median hemostatic period (41.5 min [32-49], 51 min [44-89], p = 0.036); amounts of blood losses during this hemostatic period (99 +/- 76 ml, 257 +/- 163 ml, p = 0.016). The number of bleeding needle holes, the bleeding proportion of the proximal and distal needle holes, the hemostatic period, and the amounts of bleeding during this hemostatic period were significantly less in group G. Conclusion: This new application method for fibrin glue, the rub-and-spray method, revealed significant hemostatic effectiveness, even in hemostatically difficult surgery of acute aortic dissection that requires systemic heparinization and prolonged cardiopulmonary bypass with deep hypothermia.

Full Text:

Not Available