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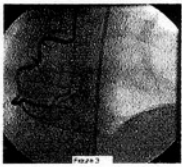


Figure 3

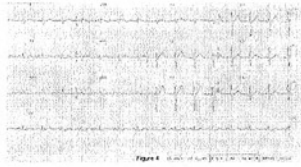


Figure 4

PP-107 AN UNUSUAL CAUSE OF CHEST PAIN; ACUTE CORONARY SYNDROME FOLLOWING ADMINISTRATION OF ERGOTAMINE TARTRATE

Sercan Okutucu¹, Hakan Aksoy¹, Banu Evranos¹, Ergun Baris Kaya¹, Lale Tokgozoglu¹, Giray Kabakci¹, Kudret Aytemir¹, Hilmi Özkutlu¹, Ali Oto¹
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Ergotamine is a widely used drug in the management of acute migraine. In most patients, ergotamine is well tolerated but it has been reported that ergot alkaloids can provoke coronary artery spasm in patients with variant angina. We report a case with migraine who had acute coronary syndrome following therapy with low dose ergotamine. A 62-years-old woman was admitted to emergency department (ED) due to chest pain described as a squeezing retrosternal pain radiating to the left arm. She had history of severe migraine attacks and started to use ergotamine tartrate 0.75 mg daily the day before. She had no history of Raynaud's phenomenon. On admission physical examination was normal. Electrocardiography (ECG) disclosed sinus tachycardia with left anterior hemiblock and T wave inversion in 123 precordial leads (Figure 1). Complete blood count and serum biochemistry were normal. Cardiac biomarkers were elevated. Transthoracic echocardiography revealed hypokinesia at the interventricular septum. Her chest pain was thought to be related with coronary vasospasm associated with ergotamine tartrate and ergotamine was discontinued. Treatment consisting of acetylsalicylic acid, enoxaparin, diltiazem and isosorbide mononitrate was started. One day later her symptoms gradually disappeared. In order to exclude coronary artery disease, she underwent coronary angiography which revealed normal coronary arteries. Her further course was uneventful; she was advised to avoid medications containing ergotamine in the future.



CONGENITAL ANOMALIES OF THE HEART AND VESSELS : DIAGNOSTIC AND THERAPEUTIC CHALLENGES

PP-108 RIGHT CORONARY OSTIUM AGENESIS: A CASE REPORT

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Right coronary ostium agenesis is a very rare developmental anomaly of the coronary arteries. We present a case of a 42-year-old patient with a dilatative cardiomyopathy, moderate mitral regurgitation, EF 33%. The patient underwent laboratory examination, radiographic chest examination and 64 MSCT coronary angiography. Laboratory findings were normal except mildly elevated fibrinogen that suggested suspected myocarditis. Radiographic chest examination showed enlarged cardiac silhouette. 64 MSCT coronary angiography showed right coronary ostium agenesis with anomalous origin of the right coronary artery from an ectatic circumflex artery. Left circumflex artery was with strong caliber, giving the posterior descending artery and terminating like a right coronary artery. Left main artery, left anterior descending artery and ramus intermedius were normal. We can conclude that 64 MSCT coronary angiography can be a method of choice in easy detection of coronary anomalies such as right coronary ostium agenesis.

KEYWORDS: Right coronary ostium agenesis, 64 MSCT coronary angiography.

PP-109 OUR CASES WITH LARGE ATRIAL SEPTAL DEFECT COMPLICATED BY DIFFERENT SEPTATION ANOMALIES

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OBJECTIVE: Atrial septal defect is a common congenital heart defect. Understanding the cardiac anatomy in the malformation of atrioventricular septal defect is an absolute prerequisite for successful surgery, and should be facilitated by recognizing the fundamental nature of the morphology(1). Abnormal apoptosis and retarded developmental growth are proposed as pathogenic mechanisms(2).

MATERIAL AND METHODS: Our first case was a 8-years-old woman. The transthoracic echocardiography (TTE) showed a dropout image in interatrial septum compatible with large ASD and dilatation of right-sided structures of the heart. Cardiac catheterization showed atrial septal defect. Qp/Qs was calculated 1.57. Pulmonary/systemic vascular resistance was 0.4.

Our second case was a 28-year-old male was admitted to our hospital with nonspecific angina pectoris and exertional dyspnea. Transthoracic echocardiogram demonstrated two middle-sized defects in secundum septum with a left-to-right shunt. Cardiac catheterization showed persistent left superior vena cava (PLSVC) and atrial septal defect.

RESULTS: Our first case was operated under endotracheal general anesthesia and in supine position. Standard right atriotomy was made. ASD was evaluated regarding its localization, size, other related cardiac structures and possible associated abnormalities. We explored a muscular limbic band localized at middle of this large atrial septal defect. We resected this band primarily. After this step ASD was made a uniform defect with excision of this band. We performed an e-PTFE patch closure of atrial septal defect. The post-operative course was uneventful with successful anatomical correction.

For our second case following a median sternotomy, pericardium was opened longitudinally. After heparinization, extra-corporeal circulation was established between the venae cavae and the ascending aorta. The PLSVC was temporarily occluded with a snare. Standard right atriotomy was made. Cribriform multiple secundum atrial septal defects (ASD) were evaluated regarding their localization. This muscular band was resected. After this step cribriform ASD was made a uniform defect with excision of the septal defect portions. We performed an e-PTFE patch closure of atrial septal defect as to drain blood from left SVC to right atrium. Postoperative echocardiographic data confirmed complete correction of the lesions.

CONCLUSION: The morphologically and topographically knowledge of atrial septal defect is useful to interpret the imaging studies of this cardiopathy and is basic for the surgeon and the interventionist cardiologist(2). Surgical closure of ASD has a low perioperative mortality and morbidity(3).

1. Adachi I, Uemura H, McCarthy KP, Ho SY. Surgical anatomy of atrioventricular septal defect. Asian Cardiovasc Thorac Ann 2008; 16(6):497-502.
2. Castellanos LM, Nivon MK, Zavaleta NE, Sánchez HC. Atrial septal defect. A morphopathological and embryological study. Arch Cardiol Mex 2006; 76(4):355-65.
3. Diab KA, Cao QL, Bacha EA, Hijazi ZM. Device closure of atrial septal defects with the Amplatzer septal occluder: safety and outcome in infants. J Thorac Cardiovasc Surg. 2007; 134(4):960-6.

PP-110 PERSISTENT LEFT SUPERIOR VENA CAVA WITH ABSENT RIGHT SUPERIOR VENA CAVA AND CORONARY SINUS DILATION

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INTRODUCTION: Persistent Left Superior Vena Cava (PLSVC) occurs in 0.3-0.5% of the healthy population. But persistent left superior vena cava with absent right superior vena cava is very rare condition and occurs in only 0.09% to 0.13% of congenital heart defects.

MATERIAL AND METHODS: 27 years old man was admitted for mitral valve repair. Preoperative transthoracic and transesophageal echocardiographic examination revealed grade 3-4 mitral valve regurgitation, PLSVC and a large coronary sinus (Fig1). After anesthetic induction central venous cannulation of right internal jugular vein was attempted using Seldinger's technique. Through a median sternotomy pericardiotomy was performed. During anatomic examination absent right SVC was seen additionally PLSVC (Fig2). Inferior vena cava and PLSVC cannulated separately with "L" type metal tip venous cannula. After cross-clamping of the ascending aorta, mitral valve repair was performed.

CONCLUSION: Combination of agenesis of right SVC and isolated PLSVC in adult patients is very rare anomaly. PLSVC is generally associated with right SVC and very rarely with absent right SVC.



Figure 1



Figure 2

PP-111 ENTRAPPED EMBOLUS THROUGH A PATENT FORAMEN OVALE COMPLICATED BY PULMONARY EMBOLISM: SUCCESSFUL TREATMENT WITH THROMBOLYTIC APPLICATION.

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Entrapped thrombus of the heart is a very rare condition and can be life-threatening. The patient must be treated immediately to prevent any embolic complications as paradoxical or pulmonary embolism.

A 63 years old male patient with complaints of dyspnea for 3 months was diagnosed as diffuse proliferative pulmonary disease (Figure 1). At echocardiography, right heart dilatation (right ventricle: 51 mm, right atrium: 52 mm), pulmonary hypertension (pulmonary arterial pressure: 95 mmHg), tricuspid failure, an entrapped thrombus which passed from patent foramen ovale to left atrium, and a moving thrombus were seen. Ejection fraction was 64 %. Moving thrombus was lie down from right atrium to left atrium (50mmx10mm in left atrium, 25mm x10 mm in right atrium) and as the time of diastole left atrial part of this thrombus came into left ventricle (Figure 2). There were thromboses at right and left pulmonary arterial in pulmonary angiography. Besides, atelectasis at inferior lobe of right lung, fibronodular appearance at postero-basale of left lung and paracardiac area, edema, pleural effusion at right were seen in computed tomography. Acute-chronic thrombus at left superficial femoral vein and acute phase thrombus at left popliteal vein were seen in lower extremity venous Doppler ultrasonography. Vena cava filter was inserted and patient was evaluated for urgent operation. Because of parenchyma lung disease, patient was evaluated as high risky for operation. Thrombolytic treatment (t-PA) was done. After t-PA treatment, transthoracic and transesophageal echocardiography were made. There was no thrombus in patent foramen ovale and cardiac chambers (Figure 3). There was 1°-2° tricuspid failure and pulmonary arterial pressure was 40 mmHg. Low molecule weight heparin therapy was started and patient was transferred to pulmonary disease clinic in order to consider the diffuse parenchymal lung disease.

Medical interventions or surgery can be applied for entrapped and pulmonary embolism, but there is no consensus on an ideal treatment. The patients with entrapped thrombi that are complicated with pulmonary embolism may benefit from initial treatment with thrombolytic, especially when surgery is risky or inconvenient. Because surgical embolectomy presents potential complications, we believe that thrombolytic treatment was the best option in our patient.



Figure 1

for atherosclerosis can be associated with CAE. This result needs further large-scale studies for validation.

KEY WORDS: Coronary ectasia, risk factors

OP-023 EARLY TERM RESULTS OF CONCOMITANT CAROTID ENDARTERECTOMY AND CORONARY ARTERY BYPASS OPERATIONS

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INTRODUCTION: The accompanying carotid arterial disorder in patients who have undergone myocardial revascularization is an important cause of stroke. Controversies still continue concerning how the mode of therapy should be in patients with both CABG and the indication of carotid endarterectomy (KEA). Surgical strategies such as two-staged (staged, reverse staged) or concomitant approaches have been reported. In this report we aimed to report the outcomes of 20 cases who undergone CABG + KEA surgery concurrently.

MATERIALS AND METHODS : Among the 250 CABG operations performed between June 2008 and May 2009 only 20 patients underwent concurrent CABG + KEA surgery. Their (10 woman, 10 men) mean age was 63.5 years. Among 20 patients only 3 had a previous history of transient ischemic attack (TIA) or stroke. All the patients were evaluated by preoperative carotid Doppler and MR angiography. Those patients having diameter reduction of more than 70 % (asymptomatic), 60 % and over (symptomatic) and those having lesions for thrombotic ulcer were considered indication for KEA. Following anesthesia induction the carotid artery and its branches were explored and suspended on the affected side. Following 5000U heparin induction, the KEA was performed. The carotid artery was primarily sutured with 6/0 polypropylene. No shunt, saphenous vein or materials of fabric patch were used in any of the patients. Subsequently, CABG was performed by using median sternotomy.

RESULTS : At the early term only one patient was died postoperative 5th day due to cardiac arrest (5%). At the late term no mortality occurred. A permanent major neurological event or stroke was not observed in any of the patients. One patient developed hoarseness which improved later and one case monoparesis (10%). All of them improved in time.

CONCLUSION: Consequently, we consider concurrent CABG + KEA a good method to be applied, with an acceptable mortality and morbidity rate.

OP-024 THE EFFICACY OF MODIFIED MECHANICAL POSTCONDITIONING ON MYOCARDIAL PROTECTION FOR PATIENTS UNDERGOING CABG

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BACKGROUND: Coronary artery bypass grafting (CABG) with cardioplegic cardiac arrest and cardiopulmonary bypass (CPB) is associated with myocardial injury. The aim of this study was to investigate whether a modified mechanical postconditioning (MMPOC) technique has a myocardial protective effect by enhancing early metabolic recovery of the heart following revascularization.

METHODS: A prospective, randomized trial was conducted at a single-center university hospital performing adult cardiac surgery. Seventy nine adult patients undergoing first-time elective isolated multivessel coronary artery bypass grafting were prospectively randomized to MMPOC or control group.

RESULTS: Operative characteristics, including CPB and aortic cross-clamp time, were similar between the two groups ($p > 0.05$). The MMPOC group had lower troponin I and other cardiac biomarkers level post CPB and postoperatively, with greater improvement in cardiac indices ($p < 0.001$). MMPOC shortened postsurgery hospitalization from 9.1 ± 2.1 to 7.5 ± 1.6 days ($p < 0.001$).

CONCLUSIONS: MMPOC technique promotes early metabolic recovery of the heart during elective CABG, leading to better myocardial protection and functional recovery.

OP-025 LEFT ANTERIOR DESCENDING ARTERY LESIONS DECISION BY FRACTIONAL FLOW RESERVE (FFR) : RELIABLE OR NOT

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Türkiye Yüksek İhtisas Hastanesi¹

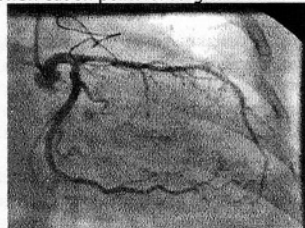
Coronary angiography is limited in its ability to determine the physiologic significance of coronary stenoses. As a result, intracoronary physiologic measurement of myocardial fractional flow reserve (FFR) was introduced and has proven to be a reliable method for determining the functional severity of coronary stenosis. Using a pressure-sensing guidewire, distal pressure can now be easily assessed and FFR can be calculated from the ratio of mean distal coronary artery pressure to mean aortic pressure during maximal hyperaemia. In a landmark study, Pijls and colleagues showed that a cutoff value of 0.75 reliably detects ischaemia-producing lesions for patients with moderate coronary stenosis and chest pain of uncertain origin, with a sensitivity of 88%, specificity of 100%, and diagnostic accuracy of 93%. A FFR of less than 0.75 is functionally significant and has been found to correlate well with the presence of ischaemia as measured by noninvasive testing modalities such as perfusion scintigraphy, stress echocardiography, and bicycle exercise testing.

MATERIAL AND METHODS: Between February 2005-April 2007, 50 patients whose left anterior descending (LAD) artery lesion were decided by FFR, were evaluated for graft patency (Lima-lad anastomosis), stent stenosis or medical follow-up. 20 patients were operated, 10 patients were stenting and 20 patients were in medical follow-up. For graft patency and stent stenosis coro-

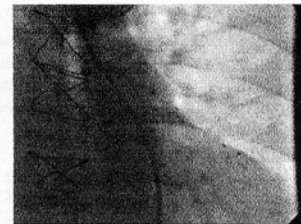
nary angiography were done and also medical follow-up patients who have angina, were diagnosed by coronary angiography.

RESULT: 10 of 20 operated patient's LIMA-LAD grafts are occluded, 3 of 10 stenting patient's stents were occluded and 2 were operated and 1 is re-coronary angioplasty was done. 3 of 20 medical follow-up patients still have an angina but their re-coronary angiography are still medical in decision rest 16 of 20 patients have no angina or myocardial infarction. Operated patients whose FFR result's under 0.70 were 6 and their grafts are open.

CONCLUSION: LIMA graft is very important conduit for coronary by-pass surgery due to long patency period. But if it is used for non-critical coronary lesion, according to competition phenomenon it can be occluded in a short period. Beside this, patients get surgery risks but they can't take exact treatment and they become a redo cases in a quick time interval. On the other hand, at medical follow-up group high asymptomatic condition and no progress at symptomatic ones coronary angiography reveals us; negative predictive power of FFR may be more reliable. 6 of 20 operated patients whose FFR was under 0.70, have an open grafts may suggest that new cut off point for surgical decision by FFR



LAD lesion with lima string sign



string sign of LIMA

OP-026 OFF-PUMP CORONARY ARTERY BYPASS SURGERY IN PATIENTS WITH CRITICAL LEFT MAIN CORONARY ARTERY LESIONS

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S. B. Dışkapı Yıldırım Beyazıt E. A. Hastanesi¹

Despite demonstration of the advantages of off-pump CABG in high risk patients, some consider this technique is hazardous in presence of critical left main coronary artery disease. In order to take advantage of this technique, between April 2008-April 2009 20 high risk patients with critical left main coronary artery stenosis was underwent to multivessel off-pump CABG. The mean age was 64.4 (44-82), female-male ratio was 1:4 and mean number of distal anastomoses was 3.1 (2-5). None of them needed to convert to on-pump CABG. As a principle, LIMA-LAD anastomosis was performed first then proximal anastomoses completed. The vessels with most critical lesions bypassed first. Complete revascularization was achieved in all of the patients. Hospital mortality was 5%. The only patient died at postoperative 22th day due to multiorgan failure and ventilatory dependency. None of the patients had perioperative myocardial infarction and low cardiac output syndrome. The results of this retrospective study demonstrated that in high risk patients with critical left main stem lesions, off pump technique is safe and successful.

CARDIOVASCULAR RISK ASSESSMENT AND CHALLENGES IN CARDIAC SURGERY

INT-OP-010 FAVOURABLE EFFECT OF RABEPRAZOLE ON INFLAMMATORY PROCESS IN ACUTE PHASE OF UNSTABLE ANGINA

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Unstable angina (UA) is accompanied by increased levels of inflammatory cytokines.

AIM: We investigated the effect of rabeprazole (pariet, Janssen-Cilag Company) on high-sensitivity C-reactive protein (hs-CRP), interleukin-6 (IL-6) and monocytes chemoattractant protein -1 (MCP-1) in acute phase of UA.

METHODS: 98 patients (62 males, 36 females; mean age 65.6 years old) with UA were divided into 2 groups (1st group using standard UA therapy (n=41) and 2nd group: 57 patients taking standard therapy and adding pariet in a daily dose 20-40 mg). Serum levels of IL-6, MCP-1 and hs-CRP were determined at baseline and after 6 weeks of treatment.

RESULTS: This investigation demonstrated that after 6 weeks of UA therapy the inflammatory markers were significantly better in 2nd group (hs-CRP from 3.5 ± 3.3 mg/l to 1.20 ± 3.3 mg/l, $p < 0.001$ vs 1st group from $3.392.2$ mg/l to $2.20.3$ mg/l, $p < 0.001$; IL-6 from $5.840.78$ pg/ml to $3.220.58$ pg/ml, $p < 0.001$ vs 1st group $5.930.74$ pg/ml to $4.80.68$ pg/ml, $p < 0.01$; MCP-1 from 3793.6 ng/ml to 3522.2 ng/ml, $p < 0.0001$ vs 1st group from 38032.2 to 36619 ng/ml, $p < 0.05$). On the background of pariet treatment there were observed a better positive clinical effect ($p < 0.001$).

CONCLUSION: Thus, the study shows the necessity of considering the value of inflammatory markers for the choice of UA treatment and, if necessary, to determine the addition of pariet correcting acute phase markers into the complex therapy of UA.

INT-OP-011 VASCULAR ATHEROSCLEROSIS AND CARDIOVASCULAR RISK STRATIFICATION: PREVALENCE AND ROLE OF SCREENING ECHO-DOPPLER EXAMINATION IN SYMPTOMATIC GENERAL POPULATION

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SYNOPSIS: To investigate the prevalence and impact of carotid and peripheral vascular ultrasonographic examination on determination of high risk symptomatic general population.

METHODS: Two thousand one hundred fifty one patients, both males and females, 30 to 80 years old, complaining of vertigo, headaches, and/or previous stroke, leg pains and/or previous peripheral bypass underwent carotid and peripheral ultrasonographic vascular examination. Total cardiovascular risk was assessed by SCORE for high regions in Europe. All patients that had significant stenosis (higher than 70%) underwent 64-MSCT carotid or peripheral angiography.

RESULTS: According to the SCORE stratification 33% of the whole population was considered at low, 54% at medium risk and 13% were high risk patients.

Prevalence rate of vascular disease in symptomatic general population was 38.3% according to Doppler ultrasonography. Vascular subclinical damage was found in 36% of the evaluated population. Fifty patients (2.3%) had $\geq 70\%$ stenosis of the carotid and/or peripheral vessels, out of which 20 patients (40%) underwent 64-MSCT peripheral angiography, 28 patients (56%) underwent 64-MSCT carotid angiography, two patients (4%) underwent 64 MSCT aortography. Out of the fifty patients, second 64-MSCT examination was needed in 32% of patients, while third 64-MSCT examination was done in 10% of patients. As a result of these examinations, 10% of the patients underwent CABG surgery, 10% underwent surgery of the carotid arteries and 14% of the patients were subjected to peripheral bypass. More than one operative treatment was performed in 8% of patients.

CONCLUSIONS: Our results show that screening estimation by Doppler ultrasonography of cardiovascular risk in general population enables more accurate identification of high risk patients. The selective use of 64-MSCT procedure in subjects at high risk of target organ damage may substantially improve the prevention and timeliness of therapy.

INT-OP-012 ENDOCRINE, IMMUNE AND METABOLIC STRESS RESPONSES TO SURGERY

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Surgical stress response is a consequence of two main mechanisms and a cause of several aspects of the postoperative morbidity. Surgery induces a reaction of nervous, endocrine, metabolic and immune systems, non-specific, shared with all the situations of physical, psychological and environmental stress (1). General anaesthesia with deep morphine analgesia or epidural analgesia reaching the T4 level allow a relative control of the endocrine and metabolic response, at least during the operative period. An inflammatory-like reaction, linked to the surgical wound, produces the release of several mediators (interleukines, TNF) which enhances during the postoperative period the reaction eventually controlled by anaesthesia during surgery. Minimum invasive surgery is of interest to limit the severity of the reaction and of its consequences on postoperative morbidity.

Sympathetic stimulation and catecholamines release play a role of starter, followed by a stimulation of the hypothalamo-hypophyso-adrenocortical axis modulated by leptin, a recently isolated hormone (2).

In the hypothalamus, the stress response stimulates the proopiomelanocortin secretion leading to the simultaneous production of ACTH and β -endorphins by fragmentation of the molecule. Hormonal blood levels are suddenly and strongly increased from 10 to 100 times the normal values and decrease slowly on several hours or several days (3).

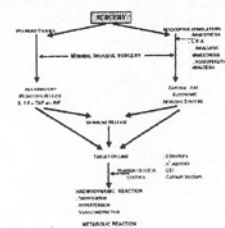
Metabolic consequences include hyperglycaemia, increased lipolysis, proteic catabolism and a water and sodium retention. Hyperglycaemia is a consequence of an increased hepatic glycogenolysis and an insulin resistance (4) by impairment of cellular glucose transporters (GLUT 4). Impaired blood glucose control has consequences on immune defenses producing a sensibility to infections and proteic catabolism has an incidence on wound-healing, especially in the diabetic patient. A tight link exists between hormonal response and stress-induced immune modifications: hormones and neuropeptides modify the production and the expression of immune cells and conversely, mediators of inflammation, such as interleukins, interferons, TNF... possess hormonal functions (5).

Side to metabolic consequences, hemodynamic disturbances of general or regional circulations, may have noxious effects especially in the patient with pre existing pathology, such as a coronary artery disease. The control of the surgical stress response imply a reduction of the operative traumatism, a better analgesia and, in some cases, a decrease of hormones and mediators effects on the target organs (6).

Many drugs like beta blockers, alpha 2 agonists, conversion inhibitory enzymes and calcium channel blockers have been proposed to limit the effects of the stress response in particular pathological context. Of theoretical interest in the normal patient, the surgical stress response needs attention in the patient with associated pathology.

BIBLIOGRAPHY

1. SCHERPEREEL P. Réaction endocrinienne et métabolique à la chirurgie: modifications liées aux techniques anesthésiques. In: Conférences d'Actualisation 1996 - 38ème Congrès National d'Anesthésie Réanimation Elsevier Edit pp 317-328
2. KAIN ZN, ZIMOVO Z, HENINGER G. Leptin and the peri operative neuro endocrinological stress response. J Clin Endocrinol Metab 1999;84:2438-42
3. WEISSMAN C. The metabolic response to stress: an overview and up-date; Anaesthesiology 1990;73:308-27
4. THOREEL A, NYGREN J, LJUNGQVIST O. Insulin resistance: a marker of surgical stress. Curr Opin Nutr Metab Care 1999;2:69-78
5. YUEN PM, MAK JW, YIM SF et al. Metabolic and inflammatory responses after laparoscopic and abdominal hysterectomy. Ann J Obstet Gynecol 1998;179:1-5
6. KENNEDY BC, HALL GM. Neuroendocrine and inflammatory aspect of surgery: do they affect outcome? Acta Anaesth Belgica 1999;50:205-9



Surgical stress response

INT-OP-013 RESPONDERS WITHOUT MAJOR HEMORRHAGE WHEN COMBINING CLOPIDOGREL WITH LOW DOSES OF ASPIRIN IN PATIENTS WITH ATRIAL FIBRILLATION.NET EFFICACY ADJUSTED FOR RISK ANALYSIS.

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BACKGROUND: In the ACTIVE A study (1), the benefit of combining clopidogrel with aspirin has been investigated in patients with atrial fibrillation (AF) when compared with aspirin alone: it reduced the risk of major vascular events, but it increased the risk of major hemorrhage. Our aim is to analyse these results under the Net Efficacy Adjusted for Risk (NEAR) analysis (2), which combines benefits and risks to obtain evidence based recommendations.

METHODS: The ACTIVE A trial results, which was a randomized study, double-blind, multicenter trial, were evaluated under NEAR analysis. The proportion of patients who respond favorably to treatment without being affected by adverse drug reactions (ADR) was measured, which could be a suitable end point. A 2x2 table was completed for each randomized group (proband -clopidogrel plus aspirin - and control - aspirin alone-), with the expected frequencies of responders with and without ADR and non-responders with and without ADR

RESULTS: Are shown at table 1

The NEAR Relative Risk is 1.006 (no benefit from 0.95 to 1.05)

CONCLUSIONS: Clopidogrel plus aspirin is not net superior to aspirin alone in AF, under the NEAR analysis

1: The ACTIVE Investigators. N Engl J Med 2009; 360:2066-78.

2: Boada JN, et al. PLoS ONE 2008;3:e3580.doi:10.1371/journal.pone.0003580

The expected frequencies

	Proband	Control
Responders without ADR	2774	2736
Responders with ADR	196	122
Non-Responders without ADR	777	884
Non-Responders with ADR	55	40

Proband: clopidogrel plus aspirin. Control: aspirin alone

INT-OP-014 TRANSPLANTABILITY AND BRIDGE TO HEART TRANSPLANT (HTX) USING INTRA-AORTIC BALLOON PUMPING (IABP) IN HIGH-URGENCY CANDIDATES WITH PULMONARY HYPERTENSION

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PURPOSE: Many high-urgency (HU) candidates for HTx additionally develop pulmonary hypertension (PHT) as a relative contraindication to HTx. A reliable risk/benefit analysis for IABP as a bridge to transplant (BTT) is not available and its effect on the reversibility of PHT parameters is not known.

METHODS: Intermediate-term outcome, clinical data, and hemodynamics were analyzed in 19 HU patients (mean age: 52yrs) with PHT (pulmonary vascular resistance (PVR) > 250 dyn x sec x cm⁻⁵) and/or a transpulmonary gradient (TPG) > 12 mmHg treated by IABP as BTT.

RESULTS: The 19 patients were transplanted after a mean waiting time of 21 days (range 1-88) and 26 days of IABP (range: 2-89). One-, 6- and 12-month survival after listing were 100%, 81%, and 81%, respectively, which is comparable to survival rates after HTx (p>0.5). One day after IABP, cardiac index increased from 1.7 L/min/m² to 2.3 L/min/m² and central venous oxygen saturation from 41% to 62%. Left ventricular preload (mean pulmonary capillary artery pressure) and afterload (systemic vascular resistance) dropped from 23 mmHg to 19 mmHg (p<0.02), and from 1497 dyn x sec x cm⁻⁵ to 1109 dyn x sec x cm⁻⁵, respectively (p<0.005). Right ventricular afterload was reduced as reflected by a decrease in mean pulmonary artery pressure from 38 mmHg to 29 mmHg (p<0.004) and in PVR from 365 to 194 dyn x sec x cm⁻⁵ (p<0.0001). The marker of right ventricular preload, mean right atrial pressure, decreased from 11 mmHg to 8 mmHg (p<0.01). There was a constant inotropic need (p<0.05). As a result, TPG decreased from 14 to 10 mmHg (p<0.045). There was no evidence of limb ischemia or infectious or embolic complications during IABP.

CONCLUSION: Our results show that IABP, a minimally invasive and safe circulatory assist device, is an efficient BTT that restores transplantability in patients with low cardiac output and concomitant PHT.

INT-OP-015 MINIMALLY INVASIVE BRIDGE TO TRANSPLANT WITH INTRA-AORTIC BALLOON PUMPING (IABP) IN HIGH-URGENCY CANDIDATES FOR HEART TRANSPLANTS (HTX)

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