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[Ablation of CXCR4 expression in cardiomyocytes exacerbates isoproterenol-induced cell death and heart failure](#)

[Protección miocárdica](#) - Jue, 12/29/2022 - 11:00

Int J Mol Med. 2023 Feb;51(2):13. doi: 10.3892/ijmm.2022.5216. Epub 2022 Dec 29.

ABSTRACT

CXCR4 is a seven-transmembrane-spanning Gi-coupled receptor for the SDF-1 chemokine and plays a critical role in cardiovascular development and post-injury repair. However, the specific role of CXCR4 in cardiomyocytes is incompletely understood. It was hypothesized that CXCR4 activation in cardiomyocytes antagonizes β -adrenoceptor/Gs signaling-induced cardiac dysfunction. Cardiomyocyte-specific CXCR4 knockout (CXCR4-CMKO) mice were generated by crossing CXCR4^{fl/fl} and MHC-Cre^{+/-} mice. Their cardiac structure and function in the basal state are equivalent to that of the control MHC-Cre^{+/-} littermates until at least 4 months old. However, following continuous subcutaneous administration of isoproterenol (Iso) via an osmotic mini-pump, the ventricular myocardial contractility, dilation, cardiomyocyte apoptosis, and interstitial fibrosis are worse in CXCR4-CMKO mice than in MHC-Cre^{+/-} littermates. In the cultured H9C2 cardiomyocytes, SDF-1 treatment markedly attenuated Iso-induced apoptosis and reduction in phospho-Akt, and this protective effect was lost by knockdown of CXCR4 or by co-treatment with Gi inhibitors. In conclusion, CXCR4 promotes cardiomyocyte survival and heart function during β -adrenergic stress.

PMID:[36579657](#) | DOI:[10.3892/ijmm.2022.5216](#)

Categorías: [Protección miocárdica](#)

[Emergency Care in the Occupied Palestinian Territory: A Scoping Review](#)

[Protección miocárdica](#) - Jue, 12/29/2022 - 11:00

Health Hum Rights. 2022 Dec;24(2):255-263.

ABSTRACT

The development of robust emergency care systems as a critical platform for addressing the global burden of disease has been increasingly recognized by global health policy makers over the past decade. A human rights-based approach to securing the right to quality emergency care is also essential to respond to the structural and political determinants of poor health outcomes. In the occupied Palestinian territory, human rights violations have contributed to significant deficiencies in health and quality of health care. In this scoping review, we identify deficiencies in the management of high-risk presentations to emergency departments in the Palestinian health care system for traumatic injury, acute myocardial infarction, and stroke. We subsequently apply a human rights-based analysis to demonstrate how structural racism in the administration of the occupation has contributed to deficiencies in emergency care. Specifically, deficiencies in resource and system organization within the Palestinian emergency care system arise due to occupation-related restrictions on freedom of movement, the procurement of essential drugs and medical equipment, and the development of a national Palestinian health care system. Further research and intervention are needed to understand gaps in emergency care for Palestinians and, in turn, to improve the management of emergency medical and traumatic conditions through capacity building of a Palestinian emergency care system. Importantly, deconstruction of the structural determinants of poor health for Palestinians in the occupied territory is needed to improve public health and ensure

the protection of human rights.

PMID:[36579300](#) | PMC:[PMC9790939](#)

Categorías: [Protección miocárdica](#)

[Multiomic Spatial Mapping of Myocardial Infarction and Implications for Personalized Therapy](#)

[Trasplante cardíaco](#) - Jue, 12/29/2022 - 11:00

Arterioscler Thromb Vasc Biol. 2022 Dec 29. doi: 10.1161/ATVBAHA.122.318333. Online ahead of print.

ABSTRACT

Ischemic heart disease including myocardial infarction is still the leading cause of death worldwide. Although the survival early after myocardial infarction has been significantly improved by the introduction of percutaneous coronary intervention, long-term morbidity and mortality remain high. The elevated long-term mortality is mainly driven by cardiac remodeling processes triggering ischemic heart failure and electric instability. Despite the new developments in pharmacotherapy of heart failure, we still lack targeted therapies for cardiac remodeling and fibrosis. Single-cell and genomic technologies allow us to map the human heart at unprecedented resolution and allow to gain insights into cellular and molecular heterogeneity. However, these technologies rely on digested tissue and isolated cells or nuclei and thus lack spatial information. Spatial information is critical to understand tissue homeostasis and disease and can be utilized to identify disease-driving cell populations and mechanisms including cellular cross-talk. Here, we discuss recent advances in single-cell and spatial genomic technologies that give insights into cellular and molecular mechanisms of cardiac remodeling after injury and can be utilized to identify novel therapeutic targets and pave the way toward new therapies in heart failure.

PMID:[36579644](#) | DOI:[10.1161/ATVBAHA.122.318333](#)

Categorías: [Trasplante cardíaco](#)

[Cardiovascular Complications in Hematopoietic Stem Cell Transplanted Patients](#)

[Trasplante cardíaco](#) - Jue, 12/29/2022 - 11:00

J Pers Med. 2022 Oct 31;12(11):1797. doi: 10.3390/jpm12111797.

ABSTRACT

Hematopoietic stem cell transplantation (HSCT) is the only curative treatment for many patients suffering from hematologic malignancies, solid tumors, inborn errors of metabolism or genetic disorders. Despite decades of successful HSCT, clinical outcomes are still far from satisfactory due to treatment-related complications, including graft-versus-host disease (GvHD) and cardiovascular complications (CVC). CVC may affect patients in the acute period post-HSCT; however, the occurrence is far higher among long-term survivors. Induction treatment using cardiotoxic treatments, e.g., anthracyclines and radiotherapy, conditioning regimens containing cyclophosphamide, and post-HSCT comorbidities, including GvHD, are factors contributing to CVC. Cardiac function evaluation prior to and post-transplantation is an important strategy for choosing the proper conditioning regimen, HSCT protocol and post-HSCT supportive care. Cardiac systolic function evaluation by echocardiography, in addition to serum cardiac biomarkers, such as troponins and brain natriuretic peptides, is recommended as a routine follow-up for HSCT patients. Angiotensin-converting enzyme inhibitors, angiotensin-II-receptor blockers, and beta-blockers, which are mostly used for the treatment of chemotherapy-induced cardiotoxicity, might be used as treatments for

HSCT-related CVC. In summary, the present review reveals the urgent need for further investigations concerning HSCT-related CVC both at the preclinical and clinical levels due to the lack of knowledge about CVC and its underlying mechanisms.

PMID:[36579521](#) | DOI:[10.3390/jpm12111797](#)

Categorías: [Trasplante cardíaco](#)

[Pulmonary hypertension in interstitial lung disease: Clinical trial design and endpoints: A consensus statement from the Pulmonary Vascular Research Institute's Innovative Drug Development Initiative-Group 3 Pulmonary Hypertension](#)

[Trasplante cardíaco](#) - Jue, 12/29/2022 - 11:00

Pulm Circ. 2022 Oct 1;12(4):e12178. doi: 10.1002/pul2.12178. eCollection 2022 Oct.

ABSTRACT

Pulmonary hypertension (PH) associated with interstitial lung disease (ILD) is an attractive target for clinical trials of PH medications. There are many factors that need to be considered to prime such studies for success. The patient phenotype most likely to respond to the intervention requires weighing the extent of the parenchymal lung disease against the severity of the hemodynamic impairment. The inclusion criteria should not be too restrictive, thus enabling recruitment. The trial should be of sufficient duration to meet the chosen endpoint which should reflect how the patient feels, functions, or survives. This paper summarizes prior studies in PH-ILD and provides a framework of the type of studies to be considered. Inclusion criteria, clinical trial endpoints, and pharmacovigilance in the context of PH-ILD trials are also addressed. Through lessons learnt from prior studies, suggestions and guidance for future clinical trials in PH-ILD are also provided.

PMID:[36578976](#) | PMC:[PMC9780699](#) | DOI:[10.1002/pul2.12178](#)

Categorías: [Trasplante cardíaco](#)

[Abdominal bronchogenic cyst: A rare case report](#)

[Congenital cardiac surgery](#) - Jue, 12/29/2022 - 11:00

World J Clin Cases. 2022 Dec 6;10(34):12671-12677. doi: 10.12998/wjcc.v10.i34.12671.

ABSTRACT

BACKGROUND: Bronchogenic cysts are cystic masses caused by congenital abnormal development of the respiratory system, and usually occur in the pulmonary parenchyma or mediastinum.

CASE SUMMARY: A rare case of a bronchogenic cyst discovered in the abdominal cavity of a 35-year-old man is reported. Physical examination found a space-occupying lesion in the patient's abdomen for 4 d. Laparoscopic exploration found the cyst tightly adhered to the stomach and its peripheral blood vessels; therefore, intraoperative laparotomy was performed. The cystic mass was resected *en bloc* with an Endo-GIA stapler. The final postoperative pathological diagnosis confirmed an abdominal bronchogenic cyst.

CONCLUSION: This is a rare case of a bronchogenic cyst that was discovered within the abdominal cavity of a male patient. The cyst is easily confused with or misdiagnosed as other lesions. Therefore, it is necessary to distinguish abdominal bronchogenic cyst from gastrointestinal stromal tumor, Meckel's diverticulum, enteric duplication cyst, or lymphangioma. Although computer tomography and magnetic resonance imaging were the primary diagnostic approaches, endoscopic ultrasound-guided fine-needle aspiration could assist with clarification of the cytological or

histopathological diagnosis before surgery.

PMID:[36579087](#) | PMC:[PMC9791524](#) | DOI:[10.12998/wjcc.v10.i34.12671](#)

Categorías: [Cirugía congénitos](#)

[Hypertensive pneumothorax with cystic lesions: Pleuropulmonary blastoma in an infant](#)

[Congenital cardiac surgery](#) - Jue, 12/29/2022 - 11:00

Respir Med Case Rep. 2022 Dec 13;41:101793. doi: 10.1016/j.rmcr.2022.101793. eCollection 2023.

ABSTRACT

Pleuropulmonary blastoma (PPB) is a rare primitive malignant lung cancer that occurs in pediatric age. Its main differential diagnosis is congenital cystic pulmonary malformation (CPAM). A 30-day-old infant with respiratory failure obtained a chest x-ray and a computed tomography scan (CT) which revealed hypertensive pneumothorax with multifocal bilateral cysts. After thoracic drainage, the patient underwent multiple thoracoscopic pulmonary resections. The first histological diagnosis was of type 2 CPAM. During the radiological follow-up, an increase in the number and dimension of the lesions was detected. Thus, a histological revision was performed, leading to the diagnosis of type I PPB, at nine months. The patient subsequently underwent chemotherapy. At the five-year follow-up appointment, chest magnetic resonance (MR) and CT scans showed a dimensional increase in size of the lesions, with the risk of recurrent pneumothorax. An upper right lobectomy and wedge resection of the residual cysts were performed. Control MR scans showed normalization of the lung parenchyma and the patient showed substantial clinical improvement.

PMID:[36579078](#) | PMC:[PMC9791169](#) | DOI:[10.1016/j.rmcr.2022.101793](#)

Categorías: [Cirugía congénitos](#)

[Successful application of the innovation process to a case of Floyd Type I tracheal agenesis](#)

[Congenital cardiac surgery](#) - Jue, 12/29/2022 - 11:00

Surg Open Sci. 2022 Dec 5;11:73-76. doi: 10.1016/j.sopen.2022.11.005. eCollection 2023 Jan.

ABSTRACT

BACKGROUND: Innovation is broadly defined as the act of introducing a new product, idea, or process. The field of surgery is built upon innovation, revolutionizing technology, science, and tools to improve patient care. While most innovative solutions are aimed at problems with a significant patient population, the process can also be used on orphan pathologies without obvious solutions. We present a case of tracheal agenesis, a rare congenital anomaly with an overwhelming mortality and few good treatment options, that benefited from the innovation process and achieved survival with no ventilator dependence at three years of age.

METHODS: Utilizing the framework of the innovation process akin to the Stanford Biodesign Program, 1) the parameters of the clinical problem were *identified*, 2) previous solutions and existing technologies were analyzed, newly *invented* solutions were brainstormed, and value analysis of the possible solutions were carried out using crowd wisdom, and 3) the selected solution was prototyped and tested using 3D modeling, iterative testing on 3D prints of actual-sized patient parts, and eventual *implementation* in the patient after regulatory clearance.

RESULTS: A 3D-printed external bioresorbable splint was chosen as the solution. Our patient

underwent airway reconstruction with "trachealization of the esophagus": esophageotracheal fistula resection, esophagotracheoplasty, and placement of a 3D-printed polycaprolactone (PCL) stent for external esophageal airway support at five months of age.

CONCLUSIONS: The innovation process provided our team with the guidance and imperative steps necessary to develop an innovative device for the successful management of an infant survivor with Floyd Type I tracheal agenesis.

ARTICLE SUMMARY: We present a case of tracheal agenesis, a rare congenital anomaly with an overwhelming mortality and few good treatment options, that benefited from the innovation process and achieved survival with no ventilator dependence at three years of age. The importance of this report is to reveal how the innovation process, which is typically used for problems with significant patient population, can also be used on orphan pathologies without obvious solutions.

PMID:[36578695](#) | PMC:[PMC9791920](#) | DOI:[10.1016/j.sopen.2022.11.005](#)

Categorías: [Cirugía congénitos](#)

[Simultaneous Tricuspid and Pulmonic Valve Replacement Due to Infective Endocarditis](#)

[Valvular cardiac surgery](#) - Jue, 12/29/2022 - 11:00

Cureus. 2022 Nov 26;14(11):e31902. doi: 10.7759/cureus.31902. eCollection 2022 Nov.

ABSTRACT

Right-sided valvular infective endocarditis (RSIE) is often associated with intravenous (IV) drug abuse and typically involves the tricuspid valve. The involvement of both the tricuspid and pulmonic valves is a rare entity. A 39-year-old woman presented with fever, dyspnea on exertion, and chest pain. She was subsequently found to have infectious endocarditis (IE) with the involvement of both the tricuspid and pulmonic valves. Simultaneous tricuspid and pulmonic valvular repair with bioprosthetic valves were performed with bovine pericardium to reconstruct the anterior surface of the pulmonary artery. Recovery was complicated by the development of a complete atrioventricular (AV) block requiring pacemaker implantation. Following device placement, the patient also developed two episodes of ventricular tachycardia arrest likely precipitated by the device. Return of spontaneous circulation (ROSC) was achieved and no further episodes occurred once the device was exchanged with a cardiac resynchronization therapy defibrillator. The patient improved clinically and was discharged home with no further complications.

PMID:[36579195](#) | PMC:[PMC9791947](#) | DOI:[10.7759/cureus.31902](#)

Categorías: [Cirugía valvular](#)

[Increasing preoperative cognitive reserve to prevent postoperative delirium and postoperative cognitive decline in cardiac surgical patients \(INCORE\): Study protocol for a randomized clinical trial on cognitive training](#)

[Extracorporeal circulation](#) - Jue, 12/29/2022 - 11:00

Front Neurol. 2022 Dec 12;13:1040733. doi: 10.3389/fneur.2022.1040733. eCollection 2022.

ABSTRACT

INTRODUCTION: Postoperative delirium (POD) and postoperative cognitive decline (POCD) can be observed after cardiosurgical interventions. Taken together, these postoperative neurocognitive disorders (PNCDS) contribute to increased morbidity and mortality. Preoperative risk factors of PNCDS,

such as decreased neuropsychometric performance or decreased cognitive daily activities, can be interpreted as reduced cognitive reserve. This study aims to build up cognitive reserves to protect against the development of PNCD through preoperative, home-based, cognitive training.

METHODS: The planned research project is a monocentric, two-arm randomized controlled intervention study involving 100 patients undergoing elective cardiac surgery with extracorporeal circulation. Patients will be assigned to a training group or control group. The intervention involves a standardized, paper-and-pencil-based cognitive training that will be performed by the patients at home for ~40 min per day over a preoperative period of 2-3 weeks. The control group will receive neither cognitive training nor a placebo intervention. A detailed assessment of psychological functions will be performed ~2-3 weeks before the start of training, at the end of the training, during hospitalization, at discharge from the acute clinic, and 3 months after surgery. The primary objective of this study is to investigate the interventional effect of preoperative cognitive training on the incidence of POD during the stay in the acute clinic, the incidence of POCD at the time of discharge from the acute clinic, and 3 months after surgery. Secondary objectives are to determine the training effect on objective cognitive functions before the surgery and subjective cognitive functions, as well as health-related quality of life 3 months after surgery.

DISCUSSION: Should it become evident that the use of our cognitive training can both reduce the incidence of POCD and POD and improve health-related quality of life, this intervention may be integrated into a standardized prehabilitation program.

PMID:[36578306](#) | PMC:[PMC9791586](#) | DOI:[10.3389/fneur.2022.1040733](#)

Categorías: [Circulación extracorpórea](#)

[Single coronary ostium with obstructive hypertrophic cardiomyopathy treated using the Morrow procedure: a case report](#)

[Protección miocárdica](#) - Mié, 12/28/2022 - 11:00

J Cardiothorac Surg. 2022 Dec 28;17(1):340. doi: 10.1186/s13019-022-02084-2.

ABSTRACT

BACKGROUND: Hypertrophic cardiomyopathy is a commonly inherited heart disease. In addition, single coronary artery (SCA) is a rare congenital anomaly of the coronary arteries. And SCA concomitant with severe hypertrophic obstructive cardiomyopathy (HOCM) has seldom been reported in the literature. However, such cases have not been reported to be treated with the Morrow procedure.

CASE PRESENTATION: Herein, we presented a case of a 64-year-old female diagnosed with a single left coronary artery with severe HOCM. The HOCM was treated with the Morrow procedure. The patient was discharged on the seventh postoperative day and was asymptomatic during the follow-up.

CONCLUSION: To our knowledge, this is the first study reporting a single left coronary artery with severe HOCM treated with the Morrow procedure. In addition, myocardial protection by cardioplegia antegrade perfusion was safe for the patient with SCA and HOCM.

PMID:[36578088](#) | DOI:[10.1186/s13019-022-02084-2](#)

Categorías: [Protección miocárdica](#)

[Resveratrol Attenuates Sepsis-Induced Cardiomyopathy in Rats through Anti-Ferroptosis via the Sirt1/Nrf2 Pathway](#)

[Protección miocárdica](#) - Mié, 12/28/2022 - 11:00

J Invest Surg. 2023 Dec;36(1):2157521. doi: 10.1080/08941939.2022.2157521.

ABSTRACT

Background: Sepsis-induced cardiomyopathy (SIC) is a severe myocardial dysfunction secondary to septicemia. It is a major concern owing to the high mortality and morbidity, which are greatly influenced by ferroptosis. Resveratrol (RSV) is a naturally existing agonist of the silent information regulator 1 (Sirt1). It has cardioprotective effects against sepsis-induced myocardial injury. However, the detailed mechanism is unknown. **Methods:** In this study, cecal ligation and puncture (CLP)-induced septic rats were employed to assess the changes in ferroptosis with RSV administration. According to the different treatments the rats were divided into the following groups: (1) the Sham, (2) CLP, (3) CLP + RSV at various doses (10, 30, and 50 mg/kg), and (4) CLP + Fer-1(a ferroptotic inhibitor) groups. After 24 h, the structure and function of the cardiac system in rats were evaluated, and mitochondrial morphology, ferroptosis-related biomarkers, and the levels of Sirt1/Nrf2 were assessed. **Results:** The rats that underwent CLP had suffered cardiac dysfunction, accompanied with myocardial damage, impaired mitochondria, elevated lipid peroxidation, and reduced Sirt1/Nrf2 expression in the myocardium. High-dose RSV successfully improved heart function, reversing the abnormalities in a dose-dependent manner. We then used EX527, a selective Sirt1 inhibitor, to further identify the intermediate signaling targets of RSV that regulate ferroptosis. EX527 diminished the curative effects of high-doses RSV. **Conclusions:** Summarily, our findings suggest a novel mechanism of RSV in reducing SIC: ferroptosis inhibition via upregulation of Sirt1/Nrf2 signaling pathways. This may be an effective therapeutic approach against organ failure in sepsis, particularly SIC.

PMID:[36576230](#) | DOI:[10.1080/08941939.2022.2157521](#)Categorías: [Protección miocárdica](#)[Hydrogen Sulfide Modulates Endothelial-Mesenchymal Transition in Heart Failure](#)[Protección miocárdica](#) - Mié, 12/28/2022 - 11:00

Circ Res. 2022 Dec 28. doi: 10.1161/CIRCRESAHA.122.321326. Online ahead of print.

ABSTRACT

BACKGROUND: Hydrogen sulfide is a critical endogenous signaling molecule that exerts protective effects in the setting of heart failure. Cystathionine γ -lyase (CSE), 1 of 3 hydrogen-sulfide-producing enzyme, is predominantly localized in the vascular endothelium. The interaction between the endothelial CSE-hydrogen sulfide axis and endothelial-mesenchymal transition, an important pathological process contributing to the formation of fibrosis, has yet to be investigated.

METHODS: Endothelial-cell-specific CSE knockout and Endothelial cell-CSE overexpressing mice were subjected to transverse aortic constriction to induce heart failure with reduced ejection fraction. Cardiac function, vascular reactivity, and treadmill exercise capacity after transverse aortic constriction were measured to determine the severity of heart failure. Histological and gene expression analyses were performed to investigate changes in cardiac fibrosis and endothelial-mesenchymal transition activation.

RESULTS: Endothelial-cell-specific CSE knockout mice exhibited increased endothelial-mesenchymal transition and reduced nitric oxide bioavailability in the myocardium, which was associated with increased cardiac fibrosis, impaired cardiac and vascular function, and worsened exercise performance. In contrast, genetic overexpression of CSE in endothelial cells led to increased myocardial nitric oxide, decreased endothelial-mesenchymal transition and cardiac fibrosis, preserved cardiac and endothelial function, and improved exercise capacity.

CONCLUSIONS: Our data demonstrate that endothelial CSE modulates endothelial-mesenchymal transition and ameliorate the severity of pressure-overload-induced heart failure, in part, through nitric oxide-related mechanisms. These data further suggest that endothelium-derived hydrogen sulfide is a potential therapeutic for the treatment of heart failure with reduced ejection fraction.

PMID:[36575984](#) | DOI:[10.1161/CIRCRESAHA.122.321326](#)

Categorías: [Protección miocárdica](#)

[Can Extracellular Vesicles as Drug Delivery Systems Be a Game Changer in Cardiac Disease?](#)

[Trasplante cardíaco](#) - Mié, 12/28/2022 - 11:00

Pharm Res. 2022 Dec 28. doi: 10.1007/s11095-022-03463-z. Online ahead of print.

ABSTRACT

Cardiac diseases such as myocardial infarction and heart failure have been the leading cause of death worldwide for more than 20 years, and new treatments continue to be investigated. Heart transplantation, a curative treatment for severe cardiac dysfunction, is available to only a small number of patients due to the rarity of donors and high costs. Cardiac regenerative medicine using embryonic stem cells and induced pluripotent stem cells is expected to be a new alternative to heart transplantation, but it has problems such as induction of immune response, tumor formation, and low survival rate of transplanted cells. On the other hand, there has been a focus on cell-free therapy using extracellular vesicles (EVs) due to their high biocompatibility and target specificity. Exosomes, one type of EV, play a role in the molecular transport system in vivo and can be considered a drug delivery system (DDS) innate to all living things. Exosomes contain nucleic acids and proteins, which are transported from secretory cells to recipient cells. Molecules in exosomes are encapsulated in a lipid bilayer, which allows them to exist stably in body fluids without being affected by nuclease degradation enzymes. Therefore, the therapeutic use of exosomes as DDSs has been widely explored and is being used in clinical trials and other clinical settings. This review summarizes the current topics of EVs as DDSs in cardiac disease.

PMID:[36577860](#) | DOI:[10.1007/s11095-022-03463-z](#)

Categorías: [Trasplante cardíaco](#)

[Effect of Preoperative Right Ventricular Dysfunction on Heart Transplantation Outcomes](#)

[Trasplante cardíaco](#) - Mié, 12/28/2022 - 11:00

Transplant Proc. 2022 Dec 27:S0041-1345(22)00771-0. doi: 10.1016/j.transproceed.2022.09.038. Online ahead of print.

ABSTRACT

BACKGROUND: We investigated if the occurrence of preoperative right ventricular dysfunction is capable of influencing heart transplant results in terms of in-hospital mortality, incidence of primary graft dysfunction, and follow-up mortality.

METHODS: We retrospectively analyzed 517 patients who underwent heart transplant between January 2000 and December 2020. We defined right ventricular dysfunction (RVD), as central venous pressure (CVP) > 15 mm Hg and CVP/pulmonary capillary wedge pressure ratio > 0.63. We identified 2 subgroups in our population: 33 patients with preoperative RVD and 484 patients without RVD.

RESULTS: In-hospital mortality was 7.9%. Severe early graft failure occurred in 6.6% of patients, with 26 patients (5.1%) needing intra-aortic balloon pump and 17 patients (3.3%) needing extracorporeal membrane oxygenation support. Clinical variables that significantly influenced in-hospital mortality were age, peripheral artery disease, and bilirubin > 1.5 mg/dL, while hemodynamic variables influencing in-hospital mortality were CVP (odds ratio [OR], 1.09 [confidence interval {CI}, 1.03-1.15], $P = .004$), pulmonary artery systolic pressure (OR, 1.02 [CI, 1.00-1.04], $P = .05$), CVP/pulmonary capillary wedge pressure ratio (OR, 2.78 [CI, 1.14-6.80], $P = .025$), pulmonary vascular resistance (OR, 1.15 [CI, 1.01-1.32], $P = .042$), transpulmonary gradient (TPG) (OR, 1.11 [CI, 1.03-1.18], $P = .003$), diastolic transpulmonary gradient (OR, 1.10 [CI, 1.02-1.20], $P = .015$), together with right ventricular dysfunction (OR, 3.56 [CI, 1.44-8.80], $P = .011$). On the other hand, clinical variables influencing the incidence of early graft failure were body mass index (calculated as weight in kilograms divided by height in meters squared) > 30, peripheral artery disease, bilirubin > 1.5 mg/dL, Model for End-Stage Liver Disease score excluding international normalized ratio before transplant, and preoperative extracorporeal membrane oxygenation support, while hemodynamic variables were pulmonary arterial systolic pressure (OR, 1.03 [CI, 1.00-1.05], $P = .016$), TPG (OR, 1.08 [1.01-1.17], $P = .03$), and right ventricular dysfunction (OR, 3.00 [CI, 1.07-8.40], $P = .046$). On the multivariable analysis, RVD and TPG were independent predictors of in-hospital mortality, while only TPG was a predictor of early graft failure. Follow-up mortality was 38.7% and was influenced by recipient age, recipient body mass index, and preoperative diabetes. Moreover, 1-, 5-, and 10-year survival of patients with preoperative RVD was significantly worse than patients without RVD (log-rank = 0.001).

CONCLUSIONS: In our population, RVD influenced both in-hospital and long-term results after heart transplant. For these reasons, it appears crucially important to optimize preoperative right ventricular function to improve these patients' outcomes.

PMID:[36577636](#) | DOI:[10.1016/j.transproceed.2022.09.038](#)

Categorías: [Trasplante cardíaco](#)

[Machine Learning Predictive Model to Guide Treatment Allocation for Recurrent Hepatocellular Carcinoma After Surgery](#)

[Trasplante cardíaco](#) - Mié, 12/28/2022 - 11:00

JAMA Surg. 2022 Dec 28. doi: 10.1001/jamasurg.2022.6697. Online ahead of print.

ABSTRACT

IMPORTANCE: Clear indications on how to select retreatments for recurrent hepatocellular carcinoma (HCC) are still lacking.

OBJECTIVE: To create a machine learning predictive model of survival after HCC recurrence to allocate patients to their best potential treatment.

DESIGN, SETTING, AND PARTICIPANTS: Real-life data were obtained from an Italian registry of hepatocellular carcinoma between January 2008 and December 2019 after a median (IQR) follow-up of 27 (12-51) months. External validation was made on data derived by another Italian cohort and a Japanese cohort. Patients who experienced a recurrent HCC after a first surgical approach were included. Patients were profiled, and factors predicting survival after recurrence under different treatments that acted also as treatment effect modifiers were assessed. The model was then fitted individually to identify the best potential treatment. Analysis took place between January and April 2021.

EXPOSURES: Patients were enrolled if treated by reoperative hepatectomy or thermoablation, chemoembolization, or sorafenib.

MAIN OUTCOMES AND MEASURES: Survival after recurrence was the end point.

RESULTS: A total of 701 patients with recurrent HCC were enrolled (mean [SD] age, 71 [9] years; 151 [21.5%] female). Of those, 293 patients (41.8%) received reoperative hepatectomy or thermoablation, 188 (26.8%) received sorafenib, and 220 (31.4%) received chemoembolization. Treatment, age, cirrhosis, number, size, and lobar localization of the recurrent nodules, extrahepatic spread, and time to recurrence were all treatment effect modifiers and survival after recurrence predictors. The area under the receiver operating characteristic curve of the predictive model was 78.5% (95% CI, 71.7%-85.3%) at 5 years after recurrence. According to the model, 611 patients (87.2%) would have benefited from reoperative hepatectomy or thermoablation, 37 (5.2%) from sorafenib, and 53 (7.6%) from chemoembolization in terms of potential survival after recurrence. Compared with patients for which the best potential treatment was reoperative hepatectomy or thermoablation, sorafenib and chemoembolization would be the best potential treatment for older patients (median [IQR] age, 78.5 [75.2-83.4] years, 77.02 [73.89-80.46] years, and 71.59 [64.76-76.06] years for sorafenib, chemoembolization, and reoperative hepatectomy or thermoablation, respectively), with a lower median (IQR) number of multiple recurrent nodules (1.00 [1.00-2.00] for sorafenib, 1.00 [1.00-2.00] for chemoembolization, and 2.00 [1.00-3.00] for reoperative hepatectomy or thermoablation). Extrahepatic recurrence was observed in 43.2% (n = 16) for sorafenib as the best potential treatment vs 14.6% (n = 89) for reoperative hepatectomy or thermoablation as the best potential treatment and 0% for chemoembolization as the best potential treatment. Those profiles were used to constitute a patient-tailored algorithm for the best potential treatment allocation.

CONCLUSIONS AND RELEVANCE: The herein presented algorithm should help in allocating patients with recurrent HCC to the best potential treatment according to their specific characteristics in a treatment hierarchy fashion.

PMID:[36576813](#) | DOI:[10.1001/jamasurg.2022.6697](#)

Categorías: [Trasplante cardíaco](#)

[The trajectory of COVID-19 cardiopulmonary disease: insights from an autopsy study of community-based, pre-hospital deaths](#)

[Trasplante cardíaco](#) - Mié, 12/28/2022 - 11:00

ERJ Open Res. 2022 Dec 27;8(4):00303-2022. doi: 10.1183/23120541.00303-2022. eCollection 2022 Oct.

ABSTRACT

BACKGROUND: *Post mortem* examination of lung and heart tissue has been vital to developing an understanding of COVID-19 pathophysiology; however studies to date have almost uniformly used tissue obtained from hospital-based deaths where individuals have been exposed to major medical and pharmacological interventions.

METHODS: In this study we investigated patterns of lung and heart injury from 46 community-based, pre-hospital COVID-19-attributable deaths who underwent autopsy.

RESULTS: The cohort comprised 22 females and 24 males, median age 64 years (range 19-91) at time of death with illness duration range 0-23 days. Comorbidities associated with poor outcomes in COVID-19 included obesity (body mass index >30 kg·m⁻²) in 19 out of 46 cases (41.3%). Diffuse alveolar damage in its early exudative phase was the most common pattern of lung injury; however significant heterogeneity was identified with bronchopneumonia, pulmonary oedema consistent with acute cardiac failure, pulmonary thromboembolism and microthrombosis also identified and often in overlapping patterns. Review of clinical records and next of kin accounts suggested a combination of unexpectedly low symptom burden, rapidly progressive disease and psychosocial factors may have contributed to a failure of hospital presentation prior to death.

CONCLUSIONS: Identifying such advanced acute lung injury in community-based deaths is extremely unusual and raises the question why some with severe COVID-19 pneumonitis were not hospitalised. Multiple factors including low symptom burden, rapidly progressive disease trajectories and psychosocial factors provide possible explanations.

PMID:[36575708](#) | PMC:[PMC9571221](#) | DOI:[10.1183/23120541.00303-2022](#)

Categorías: [Trasplante cardíaco](#)

[Early SARS-CoV-2 infection: platelet-neutrophil complexes and platelet function](#)

[Trasplante cardíaco](#) - Mié, 12/28/2022 - 11:00

Res Pract Thromb Haemost. 2022 Dec 23:100025. doi: 10.1016/j.rpth.2022.100025. Online ahead of print.

ABSTRACT

BACKGROUND: Conflicting results have been reported on platelet activity ex vivo and responsiveness in vitro among COVID-19 patients with or without thromboembolic complications.

OBJECTIVES: To assess platelet reactivity in moderate disease at early stages of COVID-19.

PATIENTS/METHODS: We performed a prospective, descriptive analysis on 100 consecutive patients presenting with suspected SARS-CoV-2 infection at the University Medical Center Freiburg during the first or second pandemic wave. Following PCR testing and compliance with study inclusion criteria, 20 SARS-CoV-2 positive and 55 SARS-CoV-2 negative patients (serving as patient controls) were enrolled. In addition, 15 healthy subjects were included. Platelet reactivity was assessed using whole blood impedance aggregometry and flow cytometry in response to various agonists.

RESULTS: Platelet aggregation was significantly impaired in COVID-19 patients as compared to patient controls or healthy subjects. The reduced platelet responsiveness in COVID-19 patients was associated with impaired activation of GPIIb/IIIa (α IIb β 3). By contrast, low P-selectin expression at baseline and intact secretion upon stimulation in vitro suggest that no pre-activation in vivo leading to "exhausted" platelets had occurred. The proportion of circulating platelet-neutrophil complexes was significantly higher in COVID-19 patients (mean \pm SD, 41 \pm 13%) than in patient controls (18 \pm 7%; 95% CI:11.1-34.1; P=0.0002) or healthy subjects (17 \pm 4%; 95% CI:13.8-33.8; P<0.0001). Analysis of neutrophil adhesion receptors revealed up-regulation of CD11b (α -subunit of α M β 2) and CD66b (CEACAM8) but not of CD162 (PSGL-1) in COVID-19 patients.

CONCLUSIONS: Despite reduced platelet responsiveness, platelet-neutrophil complexes are increased at early stages of moderate disease. Thus, this cellular interaction may occur in COVID-19 without preceding platelet activation.

PMID:[36575689](#) | PMC:[PMC9783187](#) | DOI:[10.1016/j.rpth.2022.100025](#)

Categorías: [Trasplante cardíaco](#)

[Evaluation of congenital and acquired heart diseases in a Spanish cohort of adults with Down syndrome](#)

[Congenital cardiac surgery](#) - Mié, 12/28/2022 - 11:00

Sci Rep. 2022 Dec 28;12(1):22461. doi: 10.1038/s41598-022-26918-0.

ABSTRACT

To describe congenital and acquired heart diseases in a Spanish cohort of adults with Down syndrome (DS), which could inform potential health recommendations for this population. Cross-sectional, observational study of adults with DS evaluated consecutively at a tertiary care, outpatient center between January 1 and December 31, 2019. The study population comprised 937 patients (51.8% men; median [IQR] age, 42 [18] years). An echocardiogram was available in the clinical chart of 420 patients (44.8%). The diagnosis of any form of heart disease was confirmed in 211 patients (22.5%): 101 (10.8%) had congenital heart defects, 80 (8.5%) simultaneous congenital and valvular heart diseases, and 30 (3.2%) isolated valvular heart disease. 111 patients (52.6% of those with congenital or valvular heart disease) had received corrective cardiac surgery. A total of 65 individuals were receiving medical management alone (30.8%), while 35 did not require any treatment because their cardiac disease was mild (16.6%). We found a high overall prevalence of heart disease in patients with DS, higher than previously reported for the pediatric population. Management of cardiovascular disease in adults with DS differs from that of the general population and should include universal echocardiography-based screening.

PMID:[36577781](#) | DOI:[10.1038/s41598-022-26918-0](#)Categorías: [Cirugía congénitos](#)

[Evaluation of congenital and acquired heart diseases in a Spanish cohort of adults with Down syndrome](#)

[Valvular cardiac surgery](#) - Mié, 12/28/2022 - 11:00

Sci Rep. 2022 Dec 28;12(1):22461. doi: 10.1038/s41598-022-26918-0.

ABSTRACT

To describe congenital and acquired heart diseases in a Spanish cohort of adults with Down syndrome (DS), which could inform potential health recommendations for this population. Cross-sectional, observational study of adults with DS evaluated consecutively at a tertiary care, outpatient center between January 1 and December 31, 2019. The study population comprised 937 patients (51.8% men; median [IQR] age, 42 [18] years). An echocardiogram was available in the clinical chart of 420 patients (44.8%). The diagnosis of any form of heart disease was confirmed in 211 patients (22.5%): 101 (10.8%) had congenital heart defects, 80 (8.5%) simultaneous congenital and valvular heart diseases, and 30 (3.2%) isolated valvular heart disease. 111 patients (52.6% of those with congenital or valvular heart disease) had received corrective cardiac surgery. A total of 65 individuals were receiving medical management alone (30.8%), while 35 did not require any treatment because their cardiac disease was mild (16.6%). We found a high overall prevalence of heart disease in patients with DS, higher than previously reported for the pediatric population. Management of cardiovascular disease in adults with DS differs from that of the general population and should include universal echocardiography-based screening.

PMID:[36577781](#) | DOI:[10.1038/s41598-022-26918-0](#)Categorías: [Cirugía valvular](#)

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