INFLAMMATORY PROFILE IN CHD PEDIATRIC PATIENTS

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Background and aims: Congenital heart defects (CHD) are a group of alterations that have an impact on the cardiocirculatory structure and function, which can lead to death in the first years of life or remain asymptomatic until adulthood. The CHD development is associated with multifactorial causes such as: genetic, epigenetic, immunological, environmental, nutritional deficiency and prenatal care. Our aim was to investigate the profile of inflammatory cytokines (IL6, IL10, IL18, and TNF-α) in pediatric patients with congenital heart disease followed at the Hospital Universitário Francisca Mendes, Manaus, Amazonas. **Materials and methods:** The epidemiological design was of the cross-sectional type, with samples collected in the period between 08/2022 to 02/2023 at the Hospital Universitário Francisca Mendes – HUFM. Participated in the study all patients aged < 1-year-old, diagnosed and followed up at the HUFM, after signing the free and informed consent form (ICF) from the mother of the minor's legal guardian. **Results:** A collection of 110 children aged between 1 week and 6 months was carried out. All those who underwent cardiac surgery had elevated serum complications of cytokines IL6, IL8, IL10, and TNF-α before and after surgery, when compared to patients who did not require surgery. **Discussion:** The inflammatory syndrome seen in CC is usually described as innate factors, which can determine the magnitude of its systemic inflammatory state and the individual inflammatory response to stressors. Faced with the lack of data in the literature regarding the prevalence of these CCs both in the state of Amazonas and in the city of Manaus, studies that seek to contribute with epidemiological data in this population are extremely necessary, since the late diagnosis of CC contributes to the high risk of morbidity and mortality from carrier patients **Conclusion:** According to our preliminary data, we believe that the continuation of this work will contribute with relevant information regarding cardiovascular diseases, bringing direct benefits to both the patient and the medical staff. In addition, the characterization of genetic alterations and the profile of inflammatory cytokines in patients with CHD can contribute to the discovery of new risk factors, better understanding of the genesis of cardiovascular problems and who knows how to elucidate the presence or absence of certain genetic variants with its biochemical, hematological and inflammatory impact

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6-NITRODOPAMINE AND 6-CYANODOPAMINE ARE RELEASED BY HUMAN WASHED PLATELETS

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Background and aims: 6-nitrodopamine is a novel catecholamine that is released from vascular tissues, such as human umbilical cord vessels, aortic rings from *Chelonoidis carbonarius*, *Pantherophis guttatus* and from *Callithrix* spp. 6-nitrodopamine (6-ND) has been previously identified as an endogenous substance with dopamine antagonistic properties. This study aims to identify its role in platelet aggregation. **Methods:** Liquid chromatography couple to mass spectrometry was used to quantify catecholamines from washed platelet samples. Optical aggregometry was used to identify the role of 6-ND, 6-cyanodopamine, dopamine, known receptor subtype selective dopaminergic agonists and antagonists have in ADP, collagen and thrombin stimulated aggregation to identify any inhibitory or potentiator role of 6-ND. Aggregations were carried out in human plasma rich platelets (PRP) and washed platelets. All subjects gave written informed consent, and the Universidade Estadual de of Campinas (Unicamp) ethics committee approved the clinical protocol (Approval Number 00812918.0.0000.5404). **Results:** Platelets released 6-nitrodopamine and 6-cyanodopamine upon stimulation by thrombin (0.1 U; n = 15), collagen (1 μg/m; n = 15), U-46619 (3 μM; n = 13), ADP (30 μM; n = 13), dopamine (10 μM; n = 12), adrenaline (10 μM; n = 12). 6-nitroadrenaline, 6-bromodopamine and 6-nitrodopa were not detected (n = 12 for each group). 6-ND does not cause or inhibit platelet aggregation and does not affect ADP, collagen or epinephrine induced PRP aggregation or thrombin-induced washed platelet aggregation. Curiously, 6-ND potentiates the aggregation induced by U-46619. 10 μM dopamine is sufficient to potentiate ADP and collagen induced aggregation at subthreshold concentrations. 6-ND reduces dopamine potentiation of ADP and collagen induced aggregation. Haloperidol and the D3 receptor antagonists PG01037 and SB277011A reduce the potentiation induced by dopamine but not basal ADP and collagen potentiation. Sumanirole, a selective D2 agonist, potentiated aggregation which was blocked by 6-ND. **Conclusion:** The data demonstrates that platelets released 6-nitrodopamine and a new catecholamine, 6-cyanodopamine. 6-ND acts as a D2/D3 receptor antagonist. Given that both dopamine and 6-ND are released by the vascular endothelium, 6-ND modulates platelet reactivity and may play a

protective role against thrombosis involving vascular dysfunction. **Financial support:** Felipe Caliani Mathias-Netto (88887.849884/2023-00) thanks CAPES. Rafael Campos (2022/08232-7) and Gilberto De Nucci (2019/16805-4) thanks FAPESP.

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OCORRÊNCIA DE NEUTROPENIA FEBRIL EM PACIENTES HEMATOLÓGICOS ATENDIDOS PELA FARMÁCIA CLÍNICA: IMPORTÂNCIA DA AVALIAÇÃO E ACOMPANHAMENTO FARMACÊUTICO

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Objetivos: Identificar o perfil dos pacientes oncohematológicos que desenvolveram neutropenia febril (NF) internados em uma unidade hospitalar e relacionar o desfecho de suas internações. **Materiais e métodos:** Estudo transversal retrospectivo onde avaliou-se os pacientes internados que desenvolveram NF e que foram atendidos pelo serviço de Farmácia Clínica em 2022, na unidade de internação hematológica do Hospital Conceição – Porto Alegre (RS). Utilizou-se dados sociodemográficos para caracterização da amostra, diagnóstico, presença de comorbidade, tempo de internação, protocolo e ciclo de quimioterapia, grau de neutropenia, cultura microbiológica, prescrição de profilaxias, uso empírico de antimicrobianos e necessidade de adequação por cultura, quantidade e tempo de internação e episódios febris. Através do teste de Regressão de Poisson, buscou-se as variáveis de exposição associadas ao risco relativo (RR) de óbito. **Resultados:** Dos 307 pacientes avaliados, 100 (32,6%) pacientes desenvolveram NF em um total de 149 internações. A mediana de idade foi de 52 anos (14 a 81 anos) sendo que mulheres corresponderam a 53% da amostra. As doenças mais prevalentes foram leucemias (38,3%) e linfoma não Hodgkin, tipo difuso (14,1%). Em 81,9% dos casos, as internações eram para realização de tratamento e a maioria dos pacientes apresentou neutropenia grau 4 (80,5%). Setenta pacientes internaram somente uma vez e 32 pacientes reinternaram até quatro vezes no ano. Em 113 casos, os pacientes apresentaram um episódio de NF por hospitalização, enquanto 26 tiveram entre dois e quatro episódios numa única internação avaliada. Em relação à profilaxia antimicrobiana, esta não foi utilizada em 38 casos, sendo que destes, 24 não possuíam recomendação para tal de acordo com guidelines internacionais. Em 59,9% dos casos, havia antimicrobiano prescrito de forma protocolar caso o paciente apresentasse febre (piperacilina + tazobactam em 58,6% dos casos). Em 69,9% dos exames culturais não houve crescimento de microrganismos e nos casos positivos, *Staphylococcus* sp. coagulase negativa foi o principal patógeno isolado (29,3%). Houve necessidade de escalonamento em 66,2% dos episódios de NF, com vancomicina como principal agente escolhido (38,1%). O tempo médio de internação foi 26 dias. Houve 122 altas, 26 óbitos e uma evasão. Na análise multivariada, identificou-se que a ocorrência de mais de um episódio de NF por internação (RR: 3,004; p = 0,001; CI 1,584-5,696) e a necessidade de escalonamento de antimicrobiano (RR: 3,449; p = 0,006; 1,415-8,404) estavam relacionadas ao risco de óbito. As demais variáveis estudadas não tiveram correlação estatisticamente significativa com os desfechos. **Discussão:** Os pacientes que desenvolveram NF nesta instituição possuem um perfil heterogêneo, mas, que normalmente sustentam quadros de neutropenia profunda e prolongada, condição essa que gera maior suscetibilidade a infecções e reinfecções, precisando de escalonamento de antibioticoterapia na maioria dos casos. Essas duas situações foram aqui associadas à mortalidade. **Conclusões:** NF é uma complicação prevalente em pacientes oncohematológicos que resulta em maior morbimortalidade dessa população, aumentando demanda e gastos de serviços de saúde. Assim, conhecer o perfil de pacientes que desenvolvem NF é fundamental no dia a dia do farmacêutico clínico a fim de aumentar a segurança do paciente e qualificar a assistência prestada.

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GESTÃO PARA SERVIÇOS DE SAÚDE

THE FUNDAÇÃO HEMOMINAS DONOR CO-CAPTURING ROBOT

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Aims: Discuss a new strategies and technologies to increase the number of blood donors; use artificial intelligence and robotic process automation to reduce the number of hours spent on repetitive activities within blood donation; discuss the Fundação Hemominas case study. **Materials and methods:** The Fundação Hemominas donor co-capturing robot project aims to increase donor engagement, optimize resource management, and ultimately save lives by improving blood donation rates and ensuring a stable supply. The robot makes active contacts through robocall and chatbots, monitors blood stocks and it is capable of providing information on blood donation. Blood stocks are monitored, and based on demand needs, targets for attracting blood donors by the robot are calculated. This paper presents a case study conducted with an exploratory approach to investigate the impact of the donor captor robot, an innovative technology implemented in blood donation centers. The study employed participant observation as a primary data collection tool, complemented by documental analysis to gain insights into the robot's functionality, effectiveness, and overall impact on blood donation rates and resource management. The project's technological tools are: robotic process automation (RPA), deep learning (DL), voicebots and chatbots, robocalls, MGAPP app, website, and others. **Discussion:** Down here are the expected impact. Improving blood donation rates: the robot may effectively capture and engage potential donors. Through its automated capabilities, it can reach out to a larger