

Reminder: Cardiovascular Patients Also Benefit from Influenza Vaccine

Lembrete: Doentes Cardiovasculares Também Beneficiam da Vacina Contra Influenza

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The COVID-19 pandemic has challenged all health care systems worldwide. Nevertheless, it is important to stress that there are other burdensome diseases such as influenza that should also be prevented and managed. Furthermore, the coinfection of COVID-19 and influenza is a matter of concern among healthcare professionals and the general population.

Current public health measures implemented to avoid the spread of COVID-19 infection, such as social distancing and face masks, can also mitigate the risk of influenza infection.¹ While vaccines for COVID-19 are being developed and studied,² we consider it is of utmost importance to emphasize the role of the influenza vaccine in the improvement of healthcare outcomes.

According to General Directorate of Health guidelines (006/2019, and previous) the influenza vaccine is recommended for patients at high risk of complications, including patients with cardiovascular diseases, namely those with congenital heart disease, hypertensive heart disease, chronic heart failure, and ischemic heart disease. In this context, we would like to highlight the growing evidence regarding the benefit of the influenza vaccine in patients with coronary artery disease (CAD) and with heart failure (acknowledging that these conditions may overlap in a

substantial proportion of patients).³

The knowledge that respiratory infections such as influenza are associated with an increased risk of acute coronary syndrome and exacerbation of heart failure^{4,5} led to studies evaluating the effect of vaccination in these patients, which were included in a recent overview of systematic reviews.³ Data from four randomized controlled trials including 1655 patients with CAD showed that the influenza vaccine was associated with a 61% risk reduction of all-cause mortality, 56% risk reduction of cardiovascular mortality and 50% risk reduction of major adverse cardiovascular events (MACE).³ Regarding heart failure patients, data from six observational studies showed a significant association between the influenza vaccine and decreased risk of all-cause mortality (17% risk reduction).^{3,6}

The influenza vaccine has been fully reimbursed in Portugal since 2012 for individuals over 65 years old, and the vaccination coverage rate in this population has gone from 43% in 2011 - 2012⁷ to 60.8% in 2017.⁸ Unpublished data (Vacínometro 2019/2020) shows that the vaccination coverage rate may be higher than 75% in individuals over 65 years old. This increase must be sustainable and expanded to the population with cardiovascular disease and age under 65 years old.

Vaccination for chronic obstructive pulmonary disease (COPD) patients is so well established that it is unethical to perform studies comparing influenza vaccine *versus* placebo. However, in the few studies available, the magnitude of risk reduction in all-cause mortality in COPD ranges from 37% to 55% (RR 0.45 – 0.63),⁹ which is not as different as current evidence for CAD patients.

In summary, we would like to remind physicians of the importance and the benefits of the influenza vaccine in patients with cardiovascular disease, regardless of age.

REFERENCES

- Soo RJ, Chiew C, Ma S, Pung R, Lee V. Decreased influenza incidence under COVID-19 control measures, Singapore. *Emerg Infect Dis J*. 2020;26.
- Jackson LA, Anderson EJ, Roupael NG, Roberts PC, Makhene M, Coler RN, et al. An mRNA vaccine against SARS-CoV-2 — Preliminary Report. *N Engl J Med* (in press). 2020. doi: 10.1056/NEJMoa2022483.
- Rodrigues BS, Alves M, Duarte GS, Costa J, Pinto FJ, Caldeira D. The impact of influenza vaccination in patients with cardiovascular disease: an overview of systematic reviews. *Trends Cardiovasc Med* (in press). 2020. doi: 10.1016/j.tcm.2020.06.003.
- Warren-Gash C, Hayward AC, Hemingway H, Denaxas S, Thomas SL, Timmis AD, et al. Influenza infection and risk of acute myocardial infarction in England and Wales: a CALIBER self-controlled case series study. *J Infect Dis*. 2012;206:1652–9.
- Caldeira D, Rodrigues B, David C, Costa J, Pinto FJ, Ferreira JJ. The association of influenza infection and vaccine with myocardial infarction: systematic review and meta-analysis of self-controlled case series. *Expert Rev Vaccines*. 2019;18:1211–7.
- Rodrigues BS, David CC, Costa JJ, Ferreira JJ, Pinto FJ, Caldeira D. Influenza vaccination in patients with heart failure: a systematic review and meta-analysis of observational studies. *Heart*. 2020;106:350–7.
- Instituto Nacional de Saúde Dr. Ricardo Jorge, Observatório Nacional de Saúde (ONSA). Vacinação antigripal da Popul Port em 2011/2012 Cober e Caracter do acto vacinal. Lisboa: INSA; 2012.
- Organisation for Economic Co-operation and Development. Influenza vaccination rates (indicator). [accessed 2020 Jul 22]. Available from: https://www.oecd-ilibrary.org/social-issues-migration-health/health-at-a-glance-asia-pacific-2016_health_glance_ap-2016-en.
- Bekkat-Berkani R, Wilkinson T, Buchy P, Dos Santos G, Stefanidis D, Devaster JM, et al. Seasonal influenza vaccination in patients with COPD: a systematic literature review. *BMC Pulm Med*. 2017;17:79.

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