

Advances in Cardio-Oncology: Special Issue

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DEAR COLLEAGUES:

This compilation of reviews and original articles in cardio-oncology follows the last virtual Israel Cardio Oncology Society (ISCO) 3rd meeting in January 2021. The meeting attracted more than 350 participants from 39 countries. Both international and local leaders in the field presented and discussed important issues in hemato-oncology, oncology, and of cancer-related cardiology.

The purpose of this special edition is to enhance the awareness and involvement of wide range of physicians in cardio-oncology, which is a new and burgeoning field of medicine.

Our aim in publishing this special issue is to highlight some of the most important topics in cardio-oncology for *IMAJ*'s readership and to better understand the variability of clinical presentation in addition to improving clinical awareness. At the same time, we stress that more clinical and basic research is needed in this field. It is important that this educational tool reaches not only hemato-oncologists, oncologists, and cardiologists with special interest in cancer patients but actually physicians from all disciplines including general cardiologists, internal medicine and family physicians, and many others. These goals are especially important in this era when the diagnosis of cancer behaves more as

chronic disease and the survival of oncology patients is on continuous rise.

In this special issue of the *Israel Medical Association Journal (IMAJ)*, Byrne and colleagues [1] provided a concise review of cardio-oncology issues in lymphoma patients. This field is growing rapidly and providing new treatment modalities that have various cardiovascular side effects.

Angel-Korman and colleagues [2] discussed the relationship between hypertension and cancer, while novel agents for acute leukemia and cardiac disorders associated with cellular therapy were covered by Moshe and Ram [3].

Genitourinary cancer shares common risk factors with cardiovascular diseases, including tobacco use, obesity, and advanced age. In addition to the potential cardiotoxicity of several genitourinary cancer therapies, reviewed by Cirne et al. [4], the management of these risk factors makes the collaboration of cardiologists and genitourinary oncologists a clinical imperative.

Pulmonary embolism in cancer patients is one of the hot research areas in the era of safer anticoagulation. The review by Lubetsky [5] addresses this field.

Direct oral anticoagulants (DOAC) dominate in the world of atrial fibrillation but until recently their use was rare in oncology patients. Szmit et al. provided useful clinical tips to assess the stroke and bleeding risk as well as to select the right DOACs [6].

The original paper by Nardi-Agmon and co-authors [7] described the association of pericardial effusion with the presence of EGFR/ALK tumor mutations.

Intracardiac masses in cancer patients occasionally request multimodality imaging with challenging differential diagnosis and management as presented by Prabhu and DeCara [8].

Rapidly developing technology of percutaneous mitral valve repair makes it possible to provide effective oncology treatment to patients with severe structural disorders of the heart as proposed by Abu Ghosh et al. [9].

Colchicine use in atherosclerotic vascular disease emerges as a viable clinical option for the multiple patients with high risk of recurrent events targeting inflammatory pathways common for cardiovascular disease and neoplastic disorders. The relevance and importance is addressed by Tuvali and colleagues [10] and discussed in the editorial by Blum [11].

Among the purely scientific papers addressing several aspects of cardio-oncology in this issue of *IMAJ*, we were able to include a unique article by Kay Weinberger. She presents the view of a cancer patient's wife, who experienced the clinical and human complexity while navigating the trials and tribulations of her husband's treatment and associated complications [12].

We hope that you find this special issue on cardio-oncology interesting, and that it increases awareness and understanding of the crucial need for collaboration among cardiologists, hematologists, and oncologists to translate their experiences into clinical and scientific advances.

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Capsule**Real-life side effects of mRNA vaccines are mild and short in duration**

During the study period (14 December 2020–14 June 2021) 298,792,852 doses of mRNA vaccines were administered in the United States. **Rosenblum** et al. reviewed the results of the Vaccine Adverse Event Reporting System (VAERS), which processed 340,522 reports: 313,499 (92.1%) were non-serious, 22,527 (6.6%) were serious (non-death), and 4496 (1.3%) were deaths. Over half of 7,914,583 v-safe participants self-reported local and systemic reactogenicity, more frequently after dose two (4,068,447 [71.7%] of 5,674,420 participants for local reactogenicity and 4,018,920 [70.8%] for systemic) than after dose one (4,644,989 [68.6%] of 6,775,515 participants for local reactogenicity and 3,573,429 [52.7%] for systemic). Injection-site pain (4,488,402 [66.2%] of 6,775,515 participants after dose

one and 3,890,848 [68.6%] of 5,674,420 participants after dose two), fatigue (2,295,205 [33.9%] participants after dose one and 3,158,299 participants [55.7%] after dose two), and headache (1,831,471 [27.0%] participants after dose one and 2,623,721 [46.2%] participants after dose two) were commonly reported during days 0–7 following vaccination. Reactogenicity was reported most frequently the day after vaccination; most reactions were mild. More reports of being unable to work, do normal activities, or of seeking medical care occurred after dose two (1,821,421 [32.1%]) than after dose one (808,963 [11.9%]). Less than 1% of participants reported seeking medical care after vaccination (56,647 [0.8%] after dose one and 53,077 [0.9%] after dose two).

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Capsule**Population immunity and COVID-19 severity with omicron variant in South Africa**

The B.1.1.529 (omicron) variant of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was first identified on 21 November 2021 in Gauteng province, South Africa. Data regarding the seroprevalence of SARS-CoV-2 IgG in Gauteng before the fourth wave of coronavirus disease 2019 (COVID-19), in which the omicron variant was dominant, are needed. **Madhi** and colleagues. obtained samples from 7010 participants, of whom 1319 (18.8%) had received a COVID-19 vaccine. The seroprevalence of SARS-CoV-2 IgG ranged from 56.2% (95% confidence interval [95%CI] 52.6–59.7) among children younger than 12 years of age to 79.7% (95%CI 77.6–81.5)

among adults older than 50 years of age. Vaccinated participants were more likely to be seropositive for SARS-CoV-2 than unvaccinated participants (93.1% vs. 68.4%). Epidemiologic data showed that the incidence of SARS-CoV-2 infection increased and subsequently declined more rapidly during the fourth wave than it had during the three previous waves. The incidence of infection was decoupled from the incidences of hospitalization, recorded death, and excess death during the fourth wave, compared to the proportions seen during previous waves.

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