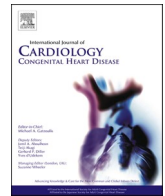




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A change of heart: Empowering adults with congenital heart disease for a healthy change

Survival rates and life expectancy for individuals born with congenital heart disease (CHD) have consistently risen in recent decades, thanks to advancements in diagnosis, treatment, and overall patient care. As adults with congenital heart disease (ACHD) age, the burden of morbidity and mortality in this population is increasingly attributed to acquired cardiovascular and other organ diseases, making up the largest proportion of disease burden in this population along with CHD-related heart failure (Fig. 1). Cardiovascular prevention in ACHD is complex, requiring collaboration across various disciplines. This collaborative approach aims not only to address the challenges posed by age transition but also to place in CHD patients and their families, from an early age, the importance of maintaining a healthy lifestyle through practices such as a balanced diet, regular exercise, and adherence to medical advice, including recommended screenings and therapeutic measures.

This special issue is a call to action to patients, general practitioners, paediatricians, paediatric cardiologists, adult cardiologists, and ACHD specialists to take charge of prevention and reduce the burden of acquired cardiovascular and other organ disease risk and prevention in ACHD. The issue opens with an overview by Professors *Thomas Luscher* and *John Deanfield* discussing the increasing prevalence of acquired cardiovascular diseases such as atherosclerosis, myocardial infarction, stroke, and heart failure in patients with congenital heart disease as they age [1]. These conditions, which typically manifest after the age of 50, are influenced by risk factors like cholesterol, blood pressure, smoking, and diabetes. Adults with congenital heart disease may be particularly vulnerable to these conditions due to their original congenital malformation. Hence, the need of preventative strategies.

The special issue covers all aspects of prevention in ACHD, including lifestyle behaviours. *Macarena Lorente* and colleagues discuss the importance among ACHD patients, to hamper the risk of malnutrition, providing dietary and supplementation recommendations specific to ACHD subpopulations, such as Fontan patients. They also review the importance of the microbiota as a new therapeutic target [2]. Maintaining an active life, with an adequate level of exercise for cardiovascular prevention, *Guido Piele*s and colleagues underline how ACHD are no exception to this good practice: early adoption of a healthy lifestyle including physical activity should be encouraged. Flipping the coin, they also review the contraindications and the eventual red flags, suggesting that individualization of exercise prescription is crucial among ACHD [3]. Mental health is an essential component of quality of life. A healthy and active lifestyle has wellbeing as the best ally. *Philip Moons* and colleagues discuss the relevance of mental health as a strong predictor of quality of life in CHD patients, reviewing psychological interventions that should be integrated into CHD care to enhance quality of life [4].

Despite preventive measures, as the survival rate for patients with congenital heart disease (CHD) has improved, the proportion of CHD patients developing coronary artery disease (CAD) also increases. For its relevance and prevalence, a full article is dedicated to describing the peculiarities and intricacies of CAD in ACHD [5]. Similarly, atrial fibrillation (AF) is a frequent companion for ACHD patients, making their clinical management more difficult. In this context, *Rosaria Baracano* and colleagues discuss current pharmacological treatments in patients with CAD and AF, including medical and interventional treatments [6]. AF is not the only source of embolic disease among ACHD. *Katja Prokselj* discusses the morbidity and mortality burden associated to stroke and more generally of systemic embolism, providing suggestions for oral anticoagulation in ACHD patients with atrial arrhythmias and intracardiac repair, cyanotic CHD, Fontan, or systemic RV [7]. *Jolanda Sabatino* and colleagues review the potential long-term effects of systemic hypertension in this complex population, recommending a meticulous follow-up to pursue an early identification of patients suitable to treatment. They also underline the importance of tailored strategies, given the complexity of the ACHD population [8]. *Magalie Ladoucer* and colleagues review current evidence on risk model to predict the occurrence of ventricular arrhythmias and sudden cardiac death in patients with a systemic right ventricle. They underline how further research is required to evaluate risk models and the efficacy of ICDs in this aging population [9].

The issue also features articles on prevention and management of other common acquired disease. In this context, *Suvasini Lakshmanan* and *Alessia Gimelli* review compelling evidence on the association between CHD and risk of cancer, particularly in the context of increased life expectancy in recent years. They call out to all healthcare professionals to team up in order to ease the intricate journey of living with CHD, ensuring timely and appropriate screening while minimizing radiation exposure [10]. *Rafael Alonso-Gonzalez* reviews with his team common musculoskeletal disorders associated with an increase of morbidity and mortality among ACHD [11]. *Gurleen Wander* and colleagues reviews the whole spectrum of women's health, stressing the importance of preconception counselling by a multidisciplinary team to optimizing cardiac status before pregnancy and enhancing pregnancy outcomes [12]. In a further article, *Liza Morton* takes us through a journey along the life trajectory of patients born with CHD, to highlight the pivotal importance a holistic approach for a positive impact on mental health in ACHD [13].

Despite a wealth of data available regarding prevention and management of acquired heart disease, their application to ACHD patients remained unaddressed in the European Society of Cardiology (ESC) guidelines [14,15], until a recent inter-associations consensus document

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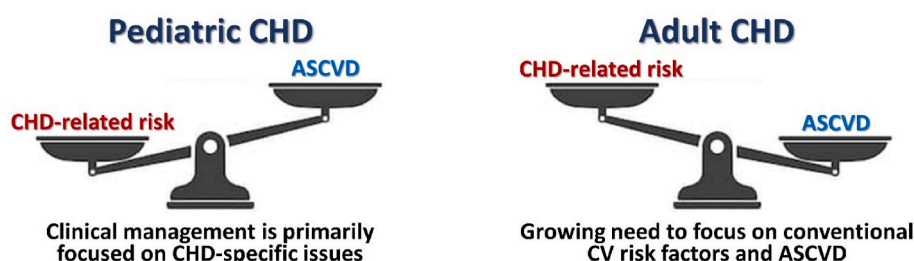


Fig. 1. The figure suggests that the care of patients with congenital heart disease (CVD) requires a different approach as they age. In fact, while the initial phase is mainly centred on the management of CHD-specific issues, adult patients require a broader approach, due to the increasing weight played by acquired cardiovascular disease (ASCVD).

addressed the issue proposing expert advice to fill the gaps left by the lack of clinical evidence [16]. This issue further attempts to disentangle the intricate nature of ACHD to physicians across different disciplines and to provide guidance for applying appropriate preventive strategies.

Declaration of competing interest

The authors declare that they have no conflict of interest.

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