JACC: ASIA, VOL. 2, NO. 2, 2022
APRIL 2022:209–214

were young and had an overall low prevalence of comorbidities, the all-cause mortality was low, and the new PPM implantation rate was high. The high rate of new PPM implantation was a critical consideration in younger low-risk patients because long-term PPM dependence has adverse effects on quality of life.

Short-term prognosis analysis showed that TAVR in low-risk Chinese patients with severe symptomatic AS was safe, with 1.0% all-cause mortality and no disabling strokes at 30 days. Moreover, the rates of procedural complications in low-risk patients with BAVs were comparable to those in low-risk TAV patients. In the future, large sample randomized clinical trials are needed to verify this result in Chinese patients.

Nanchao Hong, MD
Wenzhi Pan, MD
Shasha Chen, MD
Xiaochun Zhang, MD
***Daxin Zhou, MD**
Junbo Ge, MD

*Department of Cardiology
Zhongshan Hospital
Fudan University
Research Unit of Cardiovascular Techniques and Devices
Chinese Academy of Medical Sciences
No. 180, Fenglin Road
Shanghai 200032, China
E-mail: 1194180219@qq.com

https://doi.org/10.1016/j.jacasi.2021.12.008

This work was supported by National Key R and D Program of China (2020YFC1107803 and 2020YFC2008100). The authors have reported that they have no relationships relevant to the contents of this paper to disclose.
The authors attest they are in compliance with human studies committees and animal welfare regulations of the authors' institutions and Food and Drug Administration guidelines, including patient consent where appropriate. For more information, visit the Author Center.

REFERENCES

1. Leon MB, Smith CR, Mack MJ, et al. Transcatheter aortic-valve implantation for aortic stenosis in patients who cannot undergo surgery. *N Engl J Med*. 2010;363:1597–1607.

2. Smith CR, Leon MB, Mack MJ, et al. Transcatheter versus surgical aortic-valve replacement in high-risk patients. *N Engl J Med*. 2011;364:2187–2198.

3. Leon MB, Smith CR, Mack MJ, et al. Transcatheter or surgical aortic-valve replacement in intermediate-risk patients. *N Engl J Med*. 2016;374(17):1609–1620.

4. Mack MJ, Leon MB, Thourani VH, et al. Transcatheter aortic-valve replacement with a balloon-expandable valve in low-risk patients. *N Engl J Med*. 2019;380(18):1695–1705.

5. Jilaihawi H, Wu Y, Yang Y, et al. Morphological characteristics of severe aortic stenosis in China: imaging corelab observations from the first Chinese transcatheter aortic valve trial. *Catheter Cardiovasc Interv*. 2015;85(suppl 1):752–761.

6. Zhou D, Pan W, Wang J, et al. VitaFlow transcatheter valve system in the treatment of severe aortic stenosis: one-year results of a multicenter study. *Catheter Cardiovasc Interv*. 2020;95(2):332–338.

7. Liu XB, Jiang JB, Zhou QJ, et al. Evaluation of the safety and efficacy of transcatheter aortic valve implantation in patients with a severe stenotic bicuspid aortic valve in a Chinese population. *J Zhejiang Univ Sci B*. 2015;16(3):208–214.

8. Makkar RR, Yoon SH, Leon MB, et al. Association between transcatheter aortic valve replacement for bicuspid vs tricuspid aortic stenosis and mortality or stroke. *JAMA*. 2019;321(22):2193–2202.

9. Yerasi C, Rogers T, Forrestal BJ, et al. Transcatheter versus surgical aortic valve replacement in young, low-risk patients with severe aortic stenosis. *J Am Coll Cardiol Intv*. 2021;14(11):1169–1180.

TO THE EDITOR

Long-Term Survival and Adverse Events in Cardiac Sarcoidosis

The excellent paper by Kusano et al[1] recently published in *JACC: Asia* showed that, nationwide in Japan, cardiac sarcoidosis (CS) diagnosed clinically is less advanced and has better prognosis than CS diagnosed from endomyocardial biopsies. In the Discussion, the authors compare their mortality data with ours from the nationwide Finnish CS registry, ongoing since 2008.[2,3] However, the death rates cited from our reports are erroneously high, as they include nonfatal events[2] and cases diagnosed at autopsy.[3] For a more proper comparison, we present (**Table 1**) outcome data for patients included in our CS registry by the end of 2015 without cases diagnosed at autopsy or transplantation (n = 284, mean age 50 ± 10 years, 74% female).[3,4] Their presenting manifestations were nearly equal in type and frequency with the Japanese cohort; 95% were given corticosteroids and 73% received an implantable cardioverter-defibrillator. Compared with the data of Kusano et al, the outcomes shown in **Table 1** suggest differences between the 2 nationwide cohorts that, interestingly, are directionally opposite for fatal and nonfatal events The 5-year and 10-year all-cause mortalities were 5% and 15% in Finland vs 10% and 19% in Japan, while the corresponding rates of all adverse events were 32% and 47% in Finland vs 20% and 31% in Japan, respectively. The differences may relate to the disparities between the Finnish and Japanese CS cohorts in age (mean age 50 years vs 60 years), proportion of myocardial biopsy-based diagnoses (54% vs 18%), use of

TABLE 1 Outcome of Patients With a Lifetime Diagnosis of CS in Finland

Outcome	All Patients (n = 284)	Patients With Definite CS (n = 150)[a]	Patients With Probable CS (n = 134)[b]	*P* Value
Survival[c]				0.114
5-y, %	95 (93-98)	94 (89-98)	97 (94-100)	
10-y, %	85 (79-91)	83 (75-91)	88 (78-97)	
Survival free of transplantation				0.006
5-y, %	94 (91-97)	91 (86-96)	97 (94-100)	
10-y, %	80 (73-86)	74 (65-84)	86 (76-96)	
Survival free of transplantation and appropriate ICD therapy				<0.0001
5-y, %	68 (62-74)	56 (48-65)	81 (74-88)	
10-y, %	53 (45-61)	41 (31-51)	66 (55-78)	

Values are estimates of survival (95% confidence interval) from Kaplan-Meier analysis. *P* values refer to log-rank comparison between the diagnostic subgroups of CS. [a]Myocardial histology of sarcoidosis. [b]Extracardiac sarcoidosis histology (mandatory) with clinical manifestations and cardiac imaging compatible with CS. [c]Mortality included 16 cardiac deaths (10 sudden, 6 due to heart failure), 8 noncardiac deaths, and 6 post-transplantation deaths during mean follow-up of 6.6 (interquartile range: 4.3-10.2) years. Cardiac survival (entire cohort) was 97% (interquartile range: 94%-98%) at 5 years and 93% (interquartile range: 87%-96%) at 10 years of follow-up.

CS = cardiac sarcoidosis; ICD = implantable cardioverter-defibrillator.

corticosteroids (95% vs 84%), and in particular, rates of implantable cardioverter-defibrillator implantations (73% vs 33%). As Table 1 shows, diagnosis of CS by myocardial histology implied poorer event-free survival also in Finland.

*Markku Kupari, MD
Hanna-Kaisa Nordenswan, MD
Riina Kandolin, MD
Kaj Ekström, MD
Jukka Lehtonen, MD

*Heart and Lung Centre
Helsinki University Hospital
Seunalantie 25 A3
04200 Kerava, Finland
E-mail: markku.kupari@hus.fi

https://doi.org/10.1016/j.jacasi.2022.01.006

The authors have reported that they have no relationships relevant to the contents of this paper to disclose.
The authors attest they are in compliance with human studies committees and animal welfare regulations of the authors' institutions and Food and Drug Administration guidelines, including patient consent where appropriate. For more information, visit the Author Center.

REFERENCES

1. Kusano K, Ishibashi K, Noda T, et al. Prognosis and outcomes of clinically diagnosed cardiac sarcoidosis without positive endomyocardial biopsy findings. *JACC: Asia*. 2021;1:385-395.

2. Kandolin R, Lehtonen J, Airaksinen J, et al. Cardiac sarcoidosis: epidemiology, characteristics, and outcome over 25 years in a nationwide study. *Circulation*. 2015;131:624-632.

3. Ekström K, Lehtonen J, Nordenswan H-K, et al. Sudden death in cardiac sarcoidosis: an analysis of clinical and cause-of-death registries. *Eur Heart J*. 2019;40:3121-3128.

4. Nordenswan H-K, Lehtonen J, Ekström K, et al. Manifestations and outcome of cardiac sarcoidosis and idiopathic giant cell myocarditis by 25-year nationwide cohorts. *J Am Heart Assoc*. 2021;10:e019415.

REPLY: Long-Term Survival and Adverse Events in Cardiac Sarcoidosis

We thank Dr Kupari and colleagues for their interest in our report, which described the prophylactic implantation of an implantable cardioverter-defibrillator (ICD) in a patient with immunosuppressive therapy for clinical cardiac sarcoidosis (CS). This therapy is important in CS patients with a reduced left ventricular function, and the diagnosis of clinical CS according to the Japanese Circulation Society 2016 guideline could be applied to clinical practice.

Dr Kupari and colleagues presented the outcome data for CS patients included in the nationwide Finland CS registry without any cases diagnosed at autopsy or with heart transplantations,[1] and commented on the differences between the Finnish and Japanese nationwide cohorts. They revealed that the all-cause death-free survival in Finland was better than that in Japan, and they described that the differences in the patient characteristics, such as the age, proportion of myocardial biopsy-based diagnoses, frequency of corticosteroid use, and rates of ICD implantations, were associated with the results. We almost agree with their comments, especially of the importance of prophylactic ICD implantations. However, we would like to add our opinion on the following topic.

The number of heart transplantations in our study was only 3 during a median follow-up period