SUPPLEMENTAL MATERIAL

Data S1.

Supplemental Methods

Treatment of infective endocarditis in Sweden

In Sweden, there are 30 departments of infectious diseases (ID) that have have regional responsibility for the care of patients with severe infections, including infective endocarditis (IE). There are eight hospitals that perform cardiothoracic surgery in Sweden, including all seven university hospitals. There are no private clinics that treat infective endocarditis in Sweden. Patients requiring acute surgery for IE are, in most cases, treated in ID departments during the pre- and/or postoperative period. Thus, a vast majority of patients with IE will be treated at an ID during the disease course.

The Swedish Registry on Infective Endocarditis

Background

The Swedish Registry on Infective Endocarditis (SRIE) is maintained by the Swedish Society for Infectious Diseases since 1995. Over 7000 episodes of IE have been reported to the registry and all 30 ID departments in Sweden have participated in the registry since its inception. Since 2008 all cases are reported in an internet-based reporting system at time of discharge and after follow-up (mean: 3 months after treatment). The current study only includes patients that were entered through the internet-based reporting system. The last major update on variables in the registry was done in 2019 and none of the patients entered into the registry after that time are included in the current study.

Coverage and completeness

Reporting to the registry is not mandatory. However, it is estimated that 60-70% of all IE episodes in Sweden are reported to the registry. Most variables (non-string variables) in the registry are more than 95% complete. In the current study, each episode had information on background characteristics, admission and discharge date, information on etiology, echocardiography, and antibiotic treatment.

Data entry and variables

Data is entered online (https://www.infektionsregistret.se/Login.aspx) by an ID specialist after logging in with a username and passport. Data regarding sex, age, comorbidity, risk factors, heart failure, affected valve, the presence of any prosthetic valve, the type of prosthetic valve, the time since surgery, and the presence of other implantable cardiac devices such as a pacemaker or implantable cardioverter defibrillator (ICD) are collected. Clinical characteristics at presentation such as fever, new murmurs, and the presence of vascular and immunological phenomena are recorded. The origin of the etiologic agent is verified using, for example, blood cultures, cultures from valves during surgery, and polymerase chain reaction (PCR) from tissue samples of valves. Information about findings on echocardiography, delay from onset of symptoms to start of treatment, antibiotic treatment, need for surgery, and treatment outcome is also included. In the SRIE, vegetation

size is not a mandatory variable to fill in and in the current study, the vegetation size was reported in 896 of the total number of 1791 patients with a vegetation (66% missing).

Quality of the registry

The data in the SRIE are entered by ID specialists. A formal validation of the registry has not been carried out. The authors hope that this will be carried out in the near future. Data from the SRIE has been used in numerous studies in recent years[21-28].

Follow-up

All patients in Sweden have a national personal identification number. This number is registered in the SRIE. By cross-referencing to the Swedish National Population Registry, we could determine whether patients were alive or not at follow-up and if they were deceased, the date of death could be determined.

Table S1. Results from univariate Cox regression analysis.

Risk Factor	p-value
Age	<0.001
Sex	<0.001
Diabetes mellitus	<0.001
ESRD	<0.001
Previous Endocarditis	0.329
Injection drug use	0.057
Community acquired	<0.001
Health care related acquisition	<0.001
Heart Failure	<0.001
Mitral valve location	0.095
Prosthetic valve endocarditis	0.034
Vegetation	0.007
Abscess	0.372
Central nervous system embolism	0.197
Pathogen	<0.001

ESRD: End stage renal disease

Figure S1. Kaplan-Meier estimates of overall survival for the three age groups (Group 1, <65 years; Group 2, 65-79 years; Group 3, 80 years and older).

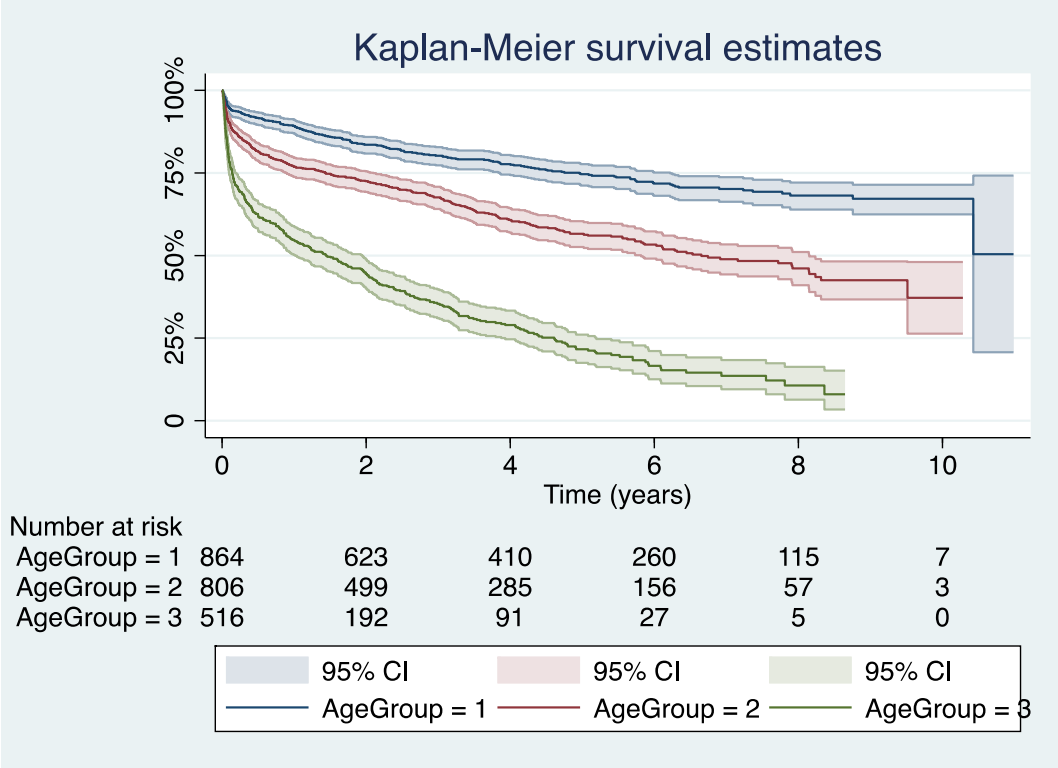

Figure S2. Propensity score matching in patients younger than 75 years and patients 75 years and older.

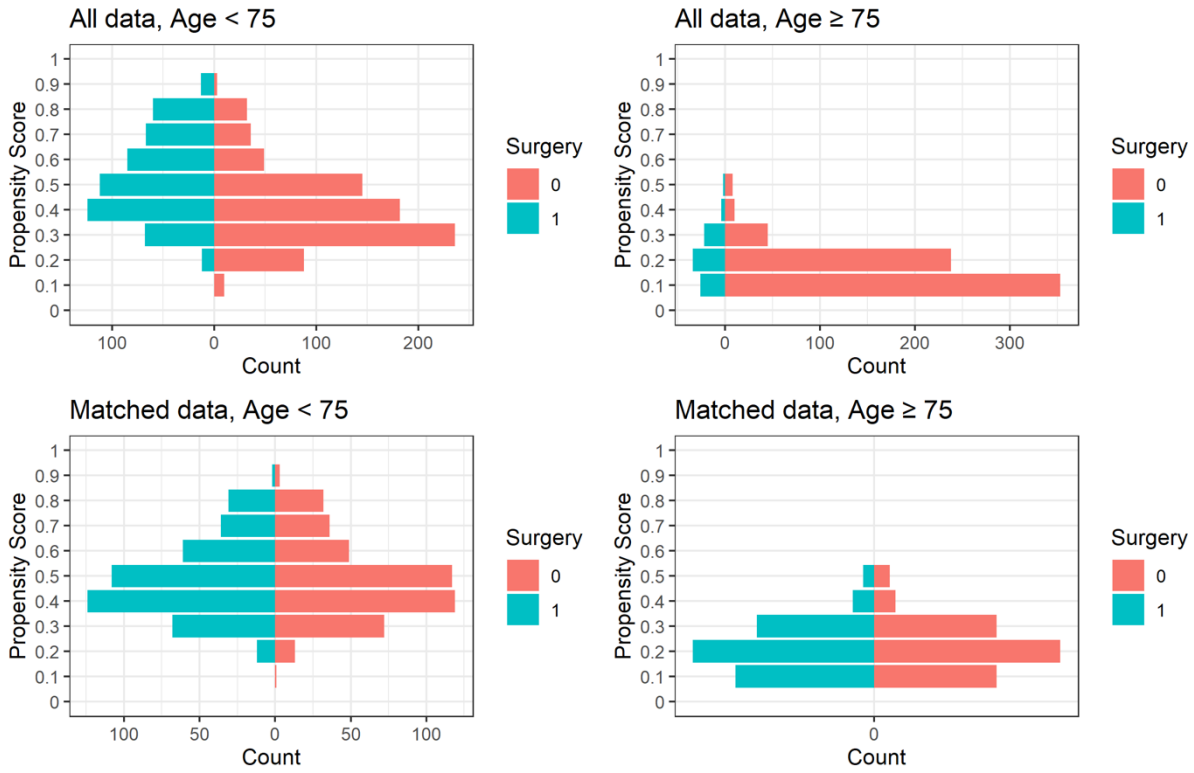

Figure S3. Scatterplot of matched and unmatched patients. Left: patients younger than 75 years. Right: patients 75 years and older.