Age-related characteristics of infective endocarditis: prospective data from the Euro-Endo registry

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Introduction: The profile of infective endocarditis (IE) is continuously evolving over time, and this may probably be partly due to increasing age of the patients.

Methods: All data were collected from the EURO-ENDO registry, which is a one-year prospective international multicentre observational survey on patients with definite or possible IE included between 2016 and 2018. Subjects were stratified into 3 groups according to their age at index hospitalization.

Results: Among the 3113 patients included, 1670 patients (54%, Young group) were <65, 1068 (34%, Medium group) between 65 and 80 and 375 (12%, Old group) ≥80 years old. The most striking age-related differences were (old group vs others) (table 1) 1) the higher comorbidity burden and Charlson index; 2) the lower rate of embolic events on admission and under therapy; 3) the higher rate of Enterocci and digestive streptococci; 4) the lower rate of surgery during acute IE despite a theoretical indication; 5) the higher in-hospital and 1-year mortality. With regards to surgery, young and medium age were predictive of more frequent performance of surgery as compared to old age (Young: OR 4.33, 95% CI [3.09–6.06], Medium: 3.62, [2.57–5.10], p<0.001). In multivariable analysis, age per se was not predictive of in-hospital and 1yr FU mortality, but lack of surgical procedures when indicated (27% of the old group), was strongly predictive.

Conclusion: This is the largest contemporary registry showing the strong influence of age on the demographic, clinical, therapeutic, and prognostic profile of IE. Non-performance of surgical procedures when indicated is frequent in old patients and is a strong predictor of mortality while age per se is not. Endocarditis Teams should take these results into account when considering surgery in elderly patients.

Table 1. Comparison of patient characteristics and outcome according to age

	<65 year (n=1670)	65–80 years (n=1068)	≥80 years (n=375)	p
Charslon index (mean ± SD)	1.96±2.13	4.87±2.56	6.23±2.85	<0.0001
Embolic events at admission (%)	30.4	21.2	15.5	<0.0001
Embolic events under therapy (%)	22.4	20.5	12.8	0.0002
Enterococcus (%)	10.5	20.4	24.2	<0.0001
Streptococcus bovis (%)	4.9	8.0	9.3	0.002
Intervention Indicated and performed (%)	78.2	76.2	44.7	<0.0001
In-hospital death (%)	13.8	18.9	25.9	<0.0001
Death at 1 year (%)	19.2	27.0	41.3	<0.0001

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