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CLINICAL RESEARCH

The VALVAFRIC study: A registry of rheumatic heart disease in Western and Central Africa

Étude VALVAFRIC. Un registre des valvulopathies rhumatismales en Afrique de l'Ouest et Centrale

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Abbreviations: 2D, two-dimensional; EF, ejection fraction; GDP, gross domestic product; LV, left ventricular; NGO, non-governmental organization; NYHA, New York Heart Association; PASP, pulmonary artery systolic pressure; RHD, rheumatic heart disease.

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KEYWORDS
Rheumatic heart disease;
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Summary
Background. — There are few African data available on rheumatic heart disease (RHD).
Aim. — To provide data on the clinical characteristics and treatment of patients with RHD hospitalized in sub-Saharan Africa.
Methods. — The VALVAFRIC study is a multicentre hospital-based retrospective registry of patients with RHD hospitalized in African cardiology departments from 2004 to 2008.
Results. — Among 3441 patients with at least one mild RHD lesion seen on echocardiography in 5 years in 12 cardiology departments from seven countries, 1385 had severe lesions (502 men; 803 women; mean age 29.3 ± 15.6 years). The ratio of severe to any RHD valvular lesion was higher in countries with the lowest gross domestic product (GDP). Mitral valve regurgitation was seen in 52.8% of cases, aortic regurgitation in 32.1%, mitral stenosis in 13.4% and aortic stenosis in 1.8%. Combined valvular lesions were observed in 13% of cases. Heart failure was present in 40% of patients. Major left ventricular dilatation was observed in 13.6% of patients, ectasic left atrial dilatation in 13.8%, dilatation of the right cardiac chambers in 19.8% and pulmonary hypertension in 28.7%. Patients with no formal schooling (41.5%) were older and had a higher New York Heart Association (NYHA) class and a lower ejection fraction (EF). Among patients aged < 20 years (mean age 14.5 ± 3.8 years), those who were schooled had a lower NYHA class (2.86 ± 0.92 vs 3.42 ± 0.93; $P < 0.01$) and a higher EF (60.3 ± 11.7 vs. 54.8 ± 12.8; $P < 0.05$) than those who were not. RHD-related delays or school failures were affected by NYHA class, EF and the number of children in the household. Although 1200 of 1334 patients required valve repair or replacement, only 27 had surgery. In-hospital outcomes included death (16%), heart failure (62%), arrhythmias (22%), endocarditis (4%) and thromboembolic events (4%). Subsequently, 176 patients were readmitted (13.6%).
Conclusions. — Patients with RHD hospitalized in sub-Saharan Africa are young, socially disadvantaged, with a high mortality rate and extremely low access to surgery. Poverty, as quantified by GDP and educational level, affects RHD-related severity, NYHA class and left ventricular dysfunction.

MOTS CLÉS
Valvulopathie rhumatismale ;
Rhumatisme articulaire aigu ;
Afrique

Résumé
Contexte. — Les données africaines sur les valvulopathies rhumatismales (VR) sont peu nombreuses.
Objectif. — Préciser les caractéristiques cliniques et le traitement des patients avec VR en Afrique subsaharienne.
Méthodes. — L'étude VALVAFRIC est un registre rétrospectif multicentrique des patients hospitalisés pour VR.
Résultats. — Parmi 3441 patients avec VR observés en échocardiographie en 5 ans dans 12 services de cardiologie de 7 pays, 1385 (502 H, 803 F, âge moyen 29,3 ± 15,6 ans) ont une atteinte sévère, plus fréquente dans les pays à produit intérieur brut (PIB) les plus bas. Une régurgitation mitrale est observée dans 52,8 % des cas, une régurgitation aortique dans 32,1 %, une sténose mitrale dans 13,4 %, une sténose aortique dans 1,8 %, des lésions valvulaires combinées dans 13 %, une insuffisance cardiaque dans 40 %, une dilatation ventriculaire gauche majeure dans 13,6 %, une dilatation auriculaire gauche ectasique dans 13,8 %, une dilatation des cavités droites dans 19,8 % et une hypertension artérielle pulmonaire dans 28,7 %. Les patients sans aucune scolarisation (41,5 %) sont plus âgés, ont une classe NYHA plus élevée et une fraction d'éjection plus basse. Parmi ceux de moins de 20 ans les scolarisés ont une classe NYHA classe inférieure (2,86 ± 0,92 vs 3,42 ± 0,93 ; $p < 0,01$) et une FE supérieure (60,3 ± 11,7