

ESC Working Group on GUCH

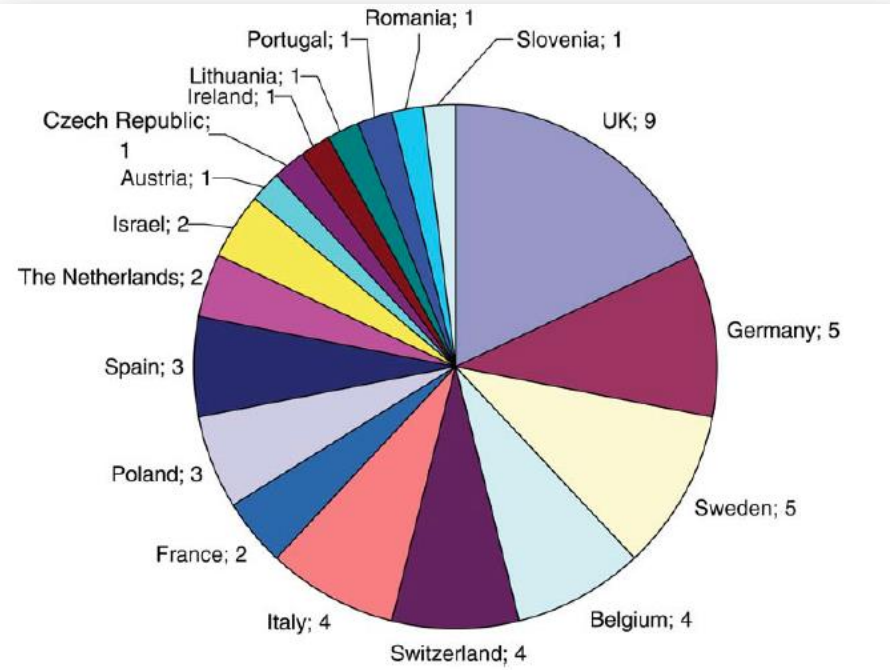
Presentation at the Council on Stroke Meeting

Markus Schwerzmann
Working Group Ex-Officio Nucleus Member



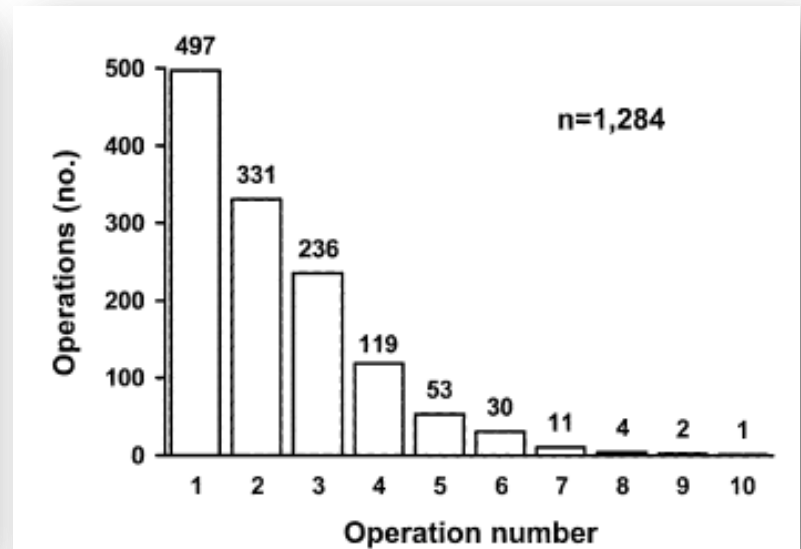
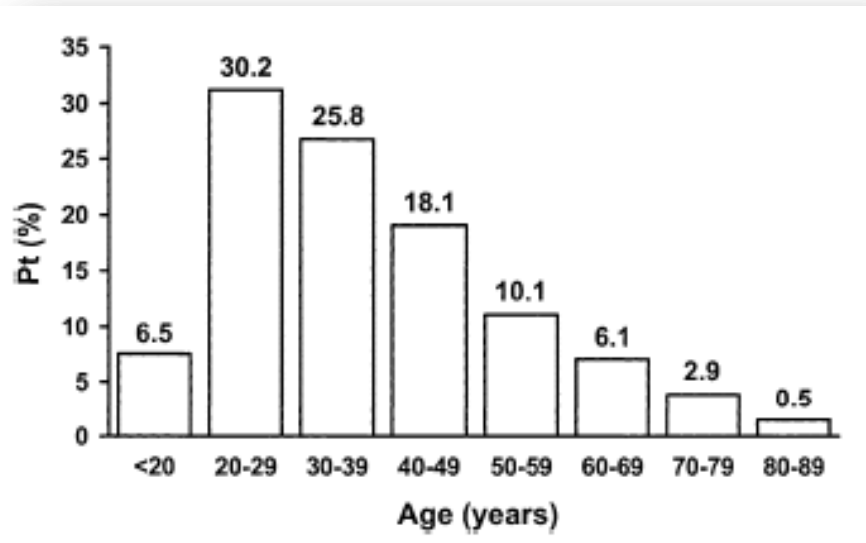
Grown-Up Congenital Heart Disease (GUCH)

Young sub-discipline in cardiology



Moons P, et al. Structure and activities of adult congenital heart disease programmes in Europe. Eur Heart J. 2010;31(11):1305-10.

GUCH in Europe: Facts and Figures



Prevalence: 0.3 per 1000 adults (ca. 2 Mio in Europe)

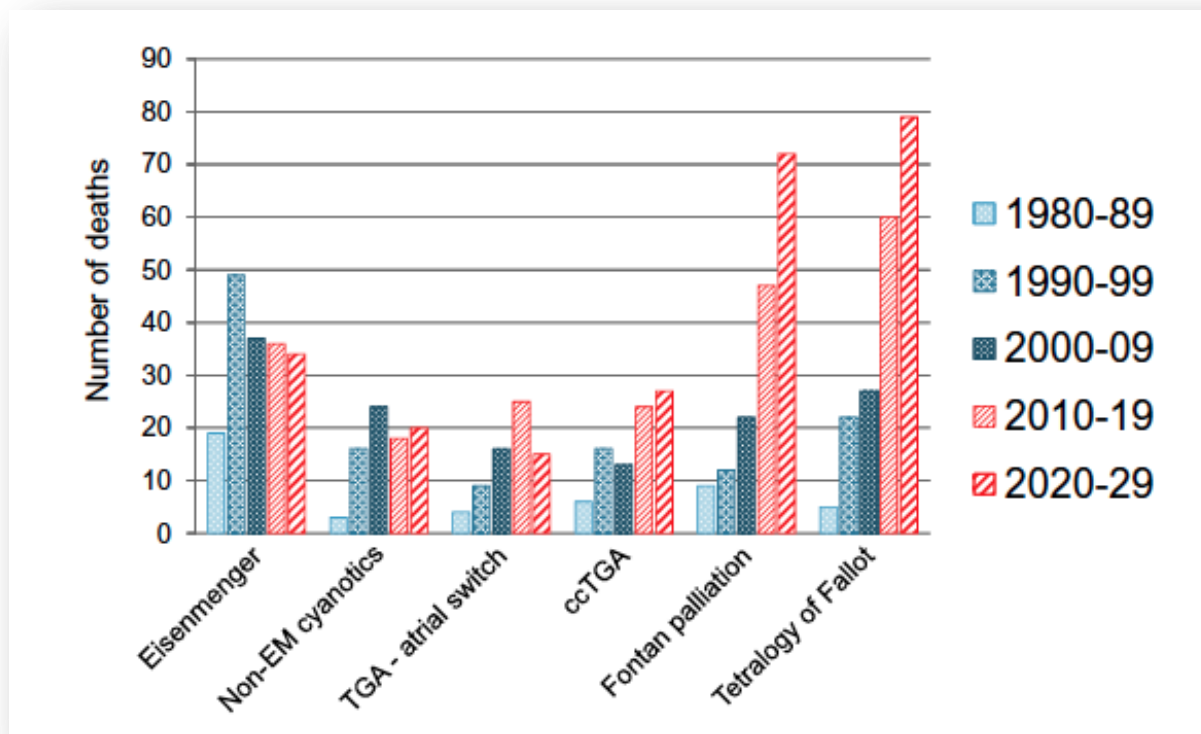
Age: Mean 35 years (16-?)

Previous cardiac interventions: 1-2

Female : Male: 50:50

Warnes CA. The adult with congenital heart disease: born to be bad? J Am Coll Cardiol. 2005;46(1):1-8.

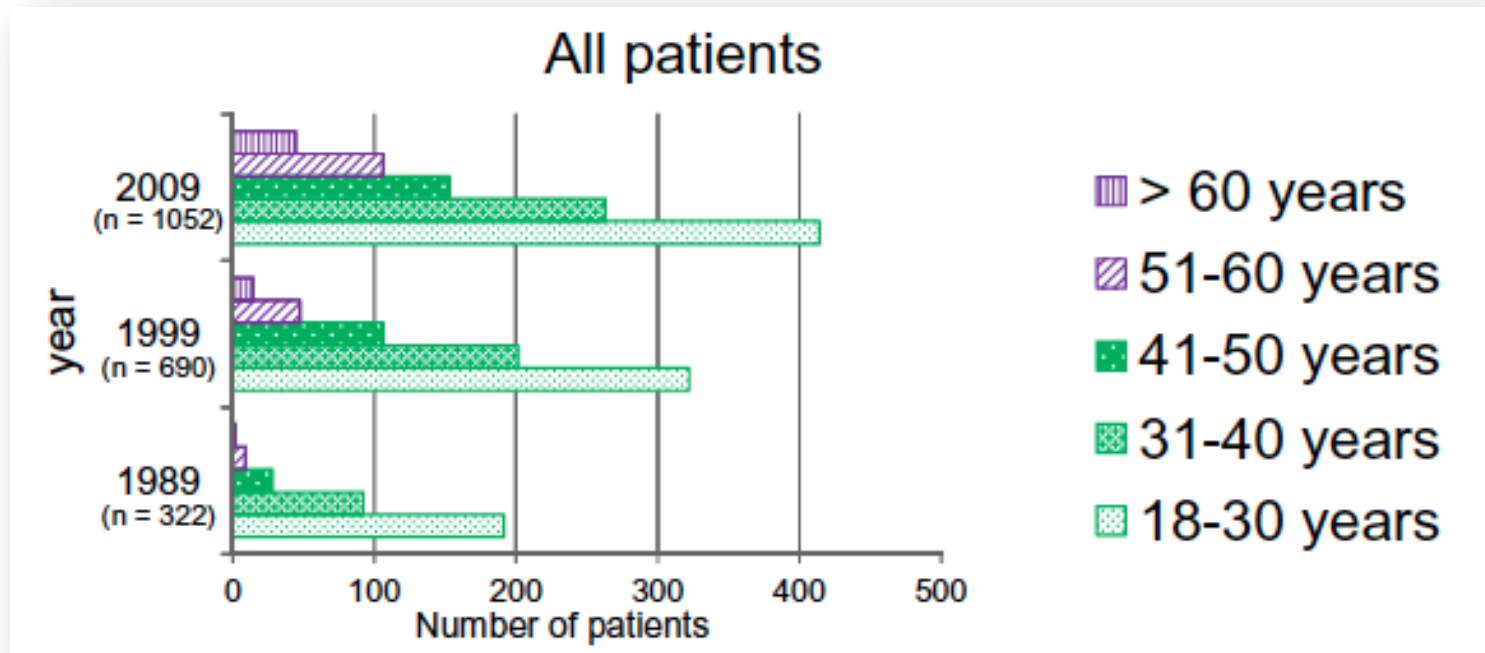
GUCH: Changing morbidity/mortality burden



Unrepaired (and cyanotic) lesions are getting scarce.
Lesions with complex palliative surgery will see steepest increase in prevalence (out-numbering children).

Greutmann M, et al. Increasing mortality burden among adults with complex congenital heart disease. *Congenit Heart Dis.* 2015;10(2):117-27

GUCH: Changing morbidity/mortality burden



GUCH patients are getting older

Defect specific mortality and morbidity is complemented by the cardiovascular burden of the aging patient

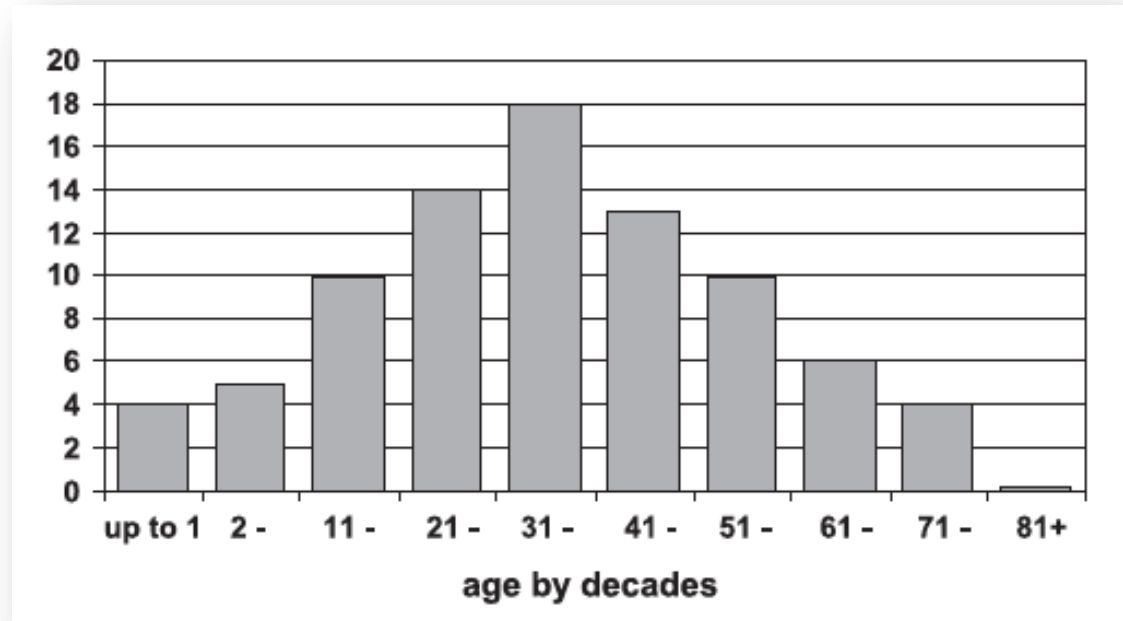
Greutmann M, et al. Increasing mortality burden among adults with complex congenital heart disease. *Congenit Heart Dis.* 2015;10(2):117-27

Stroke in GUCH patients: Europe / CAN

High stroke burden

0.05% per patients' year

- Absent sinus rhythm
- Pacemaker patients
- Endocarditis
- Surgery
- Catheter intervention



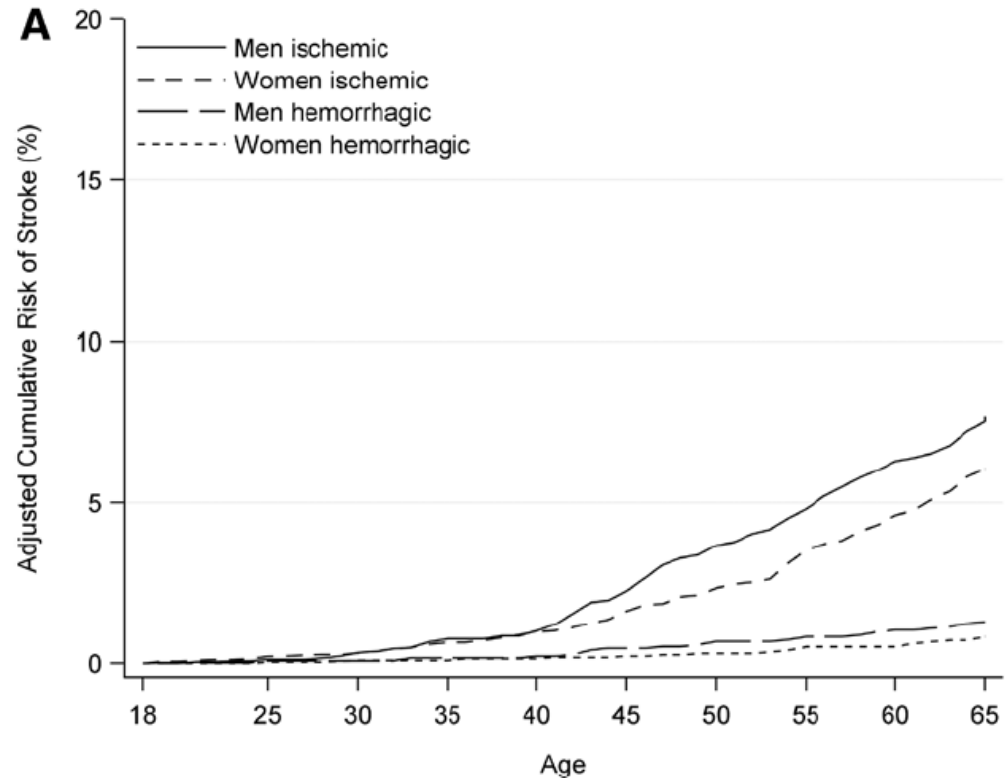
Hoffmann A, et al. Cerebrovascular accidents in adult patients with congenital heart disease. Heart. 2010;96(15):1223-6.

Stroke in GUCH patients: Quebec

High stroke burden

5% of female
9% of male
before age 65 years

- D. mellitus
- Heart failure
- Severe lesion
- Left sided lesion



30-day mortality 5% for ischemic stroke, 25% for hemor stroke

Lanz J, et al. Stroke in Adults With Congenital Heart Disease: Incidence, Cumulative Risk, and Predictors. Circulation. 2015;132(25):2385-94

Stroke in GUCH patients

Aetiologies

- Paradoxical embolism
- Peri-interventional (catheterization, cardiac surgery)
- Arrhythmias
- Related to heart failure
- Infective endocarditis
- Mechanical heart valves
- Cyanotic heart disease (rheological problems)
- Intracranial arterial anomalies (e.g. coarctation – Berry aneurysm)
- Acquired cardiovascular risk factors

Stroke in GUCH patients

Unanswered questions

- What are CHD specific risk factors for stroke and how can stroke be prevented (e.g. can traditional risk scores be applied in GUCH patients – e.g. the CHADS-Vasc Score? What is the role of NOACs in such patients for stroke prevention? Risk score for peri-interventional strokes?)
- Impact of silent strokes on long-term outcome
- Impact of stroke on neuro-cognitive function in vulnerable patients
- Stroke during pregnancy: Prevalence, risk factors, ...