Zwangerschap en hartafwijkingen

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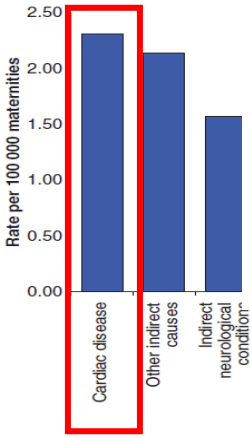
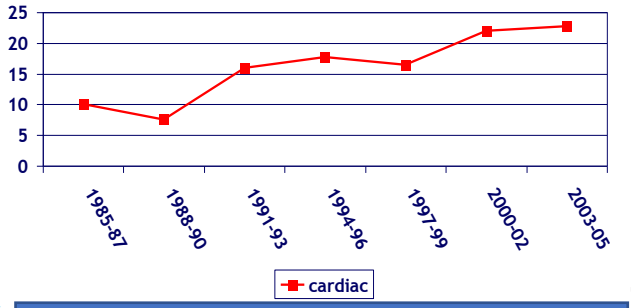
Belangrijkste oorzaken van moedersterfte



MBRRACE-UK



Toename in moedersterfte tgv hartaandoening
(deaths/1,000,000 maternities)

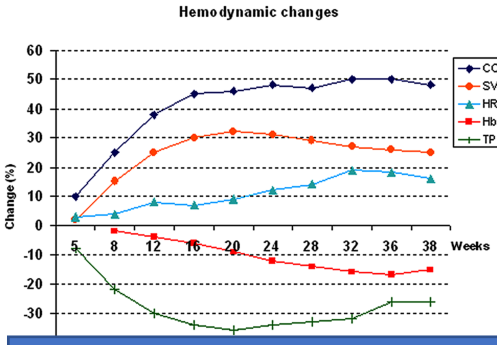
Lewis G (ed.). Saving Mothers' Lives: reviewing maternal deaths to make motherhood safer—2006–2008. The Eighth Report of the Confidential Enquiries into Maternal Deaths in the United Kingdom. BJOG 2011;118(Suppl. 1):1–205.

Belangrijkste cardiale oorzaken van moedersterfte

Type and cause of death	1994–96	1997–99	2000–02	2003–05	2006–08
Acquired					
Aortic dissection	7	5	7	9	7
Myocardial infarction (MI)	6	5	8	12	6
Ischaemic heart disease (no MI)	0	0	0	4	5
Sudden adult death syndrome (SADS)	0	0	4	3	10
Peripartum cardiomyopathy	4	7	4	0*	9**
Other cardiomyopathy	2	3	4	1	4
Myocarditis or myocardial fibrosis	3	2	3	5	4
Mitral stenosis or valve disease	0	0	3	3	0
Thrombosed aortic or tricuspid valve	1	0	0	0	2
Infective endocarditis	0	2	1	2	2
Right or left ventricular hypertrophy or hypertensive heart disease	1	2	2	2	1
Congenital					
Pulmonary hypertension (PHT)	7	7	4	3	2
Congenital heart disease (not PHT or thrombosed aortic valve)	3	2	2	3	1
Other	5	0	2	0	0
Total	39	35	44	48***	53

Hoger risico tijdens zwangerschap?

Stijging in linker ventrikel massa en contractiliteit



50-65% stijging CO

20-30% stijging SV

15-30% stijging HF

30% daling SVR

+ 25% arbeid
10% contracties

Hoger risico op hartfalen, ritmestoornissen, thrombose en aorta dissectie tijdens zwangerschap

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2018 ESC Guidelines for the management of cardiovascular diseases during pregnancy
European Heart Journal (2018) 00, 1–83- doi:10.1093/eurheartj/ehy 340

Risico classificatie: mWHO

mWHO I	mWHO II	mWHO II–III	mWHO III	mWHO IV
Risico				
No detectable increased risk of maternal mortality and no/mild increased risk in morbidity	Small increased risk of maternal mortality or moderate increase in morbidity	Intermediate increased risk of maternal mortality or moderate to severe increase in morbidity	Significantly increased risk of maternal mortality or severe morbidity	Extremely high risk of maternal mortality or severe morbidity
% cardiale events moeder				
2.5-5%	6–10%	10-19%	19-27%	40-100%

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mWHO I	mWHO II	mWHO II–III	mWHO III	mWHO IV
Small or mild – pulmonary stenosis – patent ductus arteriosus – mitral valve prolapse Successfully repaired simple lesions (atrial or ventricular septal defect, patent ductus arteriosus, anomalous pulmonary venous drainage) Atrial or ventricular ectopic beats, isolated	Unoperated atrial or ventricular septal defect Repaired tetralogy of Fallot Most arrhythmias (supraventricular arrhythmias) Turner syndrome without aortic dilatation	Mild left ventricular impairment (EF >45%) Hypertrophic cardiomyopathy Native or tissue valve disease not considered WHO I or IV (mild mitral stenosis, moderate aortic stenosis) Marfan or other HTAD syndrome without aortic dilatation Aorta <45 mm in bicuspid aortic valve pathology Repaired coarctation Atrioventricular septal defect	Moderate left ventricular impairment (EF 30–45%) Previous peripartum cardiomyopathy without any residual left ventricular impairment Mechanical valve Systemic right ventricle with good or mildly decreased ventricular function Fontan circulation. If otherwise the patient is well and the cardiac condition uncomplicated Unrepaired cyanotic heart disease Other complex heart disease Moderate mitral stenosis Severe asymptomatic aortic stenosis Moderate aortic dilatation (40–45 mm in Marfan syndrome or other HTAD; 45–50 mm in bicuspid aortic valve, Turner syndrome ASI 20–25 mm/m^2, tetralogy of Fallot <50 mm) Ventricular tachycardia	Pulmonary arterial hypertension Severe systemic ventricular dysfunction (EF <30% or NYHA class III–IV) Previous peripartum cardiomyopathy with any residual left ventricular impairment Severe mitral stenosis Severe symptomatic aortic stenosis Systemic right ventricle with moderate or severely decreased ventricular function Severe aortic dilatation (>45 mm in Marfan syndrome or other HTAD, >50 mm in bicuspid aortic valve, Turner syndrome ASI >25 mm/m^2, tetralogy of Fallot >50 mm) Vascular Ehlers–Danlos Severe (re)coarctation Fontan with any complication

www

mWHO I

Geopereerde eenvoudige letsels

Milde pulmonaalstenose

mWHO II

Geopereerde tetralogie van Fallot

Supraventriculaire ritmestoornissen

mWHO II-III

Hypertrofe cardiomyopathie

Klepijden

Marfan zonder aorta dilatatie

mWHO III

Mechanische kunstklep

LVEF 30-45%

Complexe congenitale hartziekten

mWHO IV

Ernstige aorta dilatatie

LVEF < 30%

Pulmonale hypertensie

Ernstige symptomatische aortaklepstenose

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Table 4 Predictors of maternal and neonatal events

Predictors of maternal cardiovascular events
Prior cardiac event (heart failure, transient ischaemic attack, stroke, arrhythmia)[4,28,43,47,48]
NYHA class III/IV[29,42,43,48,49]
Left heart obstruction (moderate to severe)[29,42]
Reduced systemic ventricular systolic function (ejection fraction <40%)[29,43,49]
Reduced subpulmonary ventricular function[47,50] (TAPSE <16 mm)[49,51]
Systemic atrioventricular valve regurgitation (moderate to severe)[42]
Pulmonary atrioventricular valve regurgitation (moderate to severe)[42]
Pulmonary arterial hypertension[43,48,49]
Cardiac medication before pregnancy[42,46]
Cyanosis (O_2 saturation <90%)[29,49]
Natriuretic peptide levels (NT-proBNP >128 pg/mL at 20 weeks predictive of event later in pregnancy)[42,46]
Smoking history[51]
Mechanical valve prosthesis[42,47]
Repaired or unrepaired cyanotic heart disease[42]

Klinische implicaties

- Consultatie voor de zwangerschap

  Uitleg risico's en verschillende opties
- Centralisatie van zorg voor alle vrouwen met een (complexe) hartafwijking
- Behandeling door een multidisciplinair team met digitaal vastleggen van alle afspraken.

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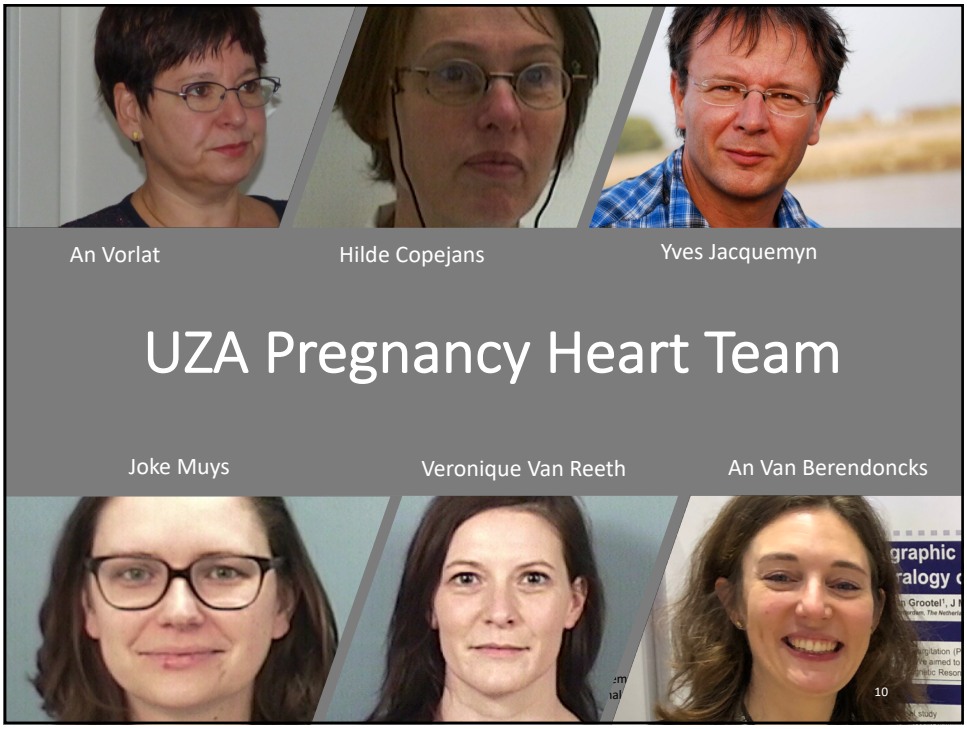

Conclusies

Iedere vrouw met cardiale diagnose verdient extra aandacht voor en tijdens de zwangerschap

Zelfs milde hartdefecten veroorzaken complicaties

Multidisciplinair team met vaste deelnemers