Gravidanza e GUCH: un rischio da affrontare ?

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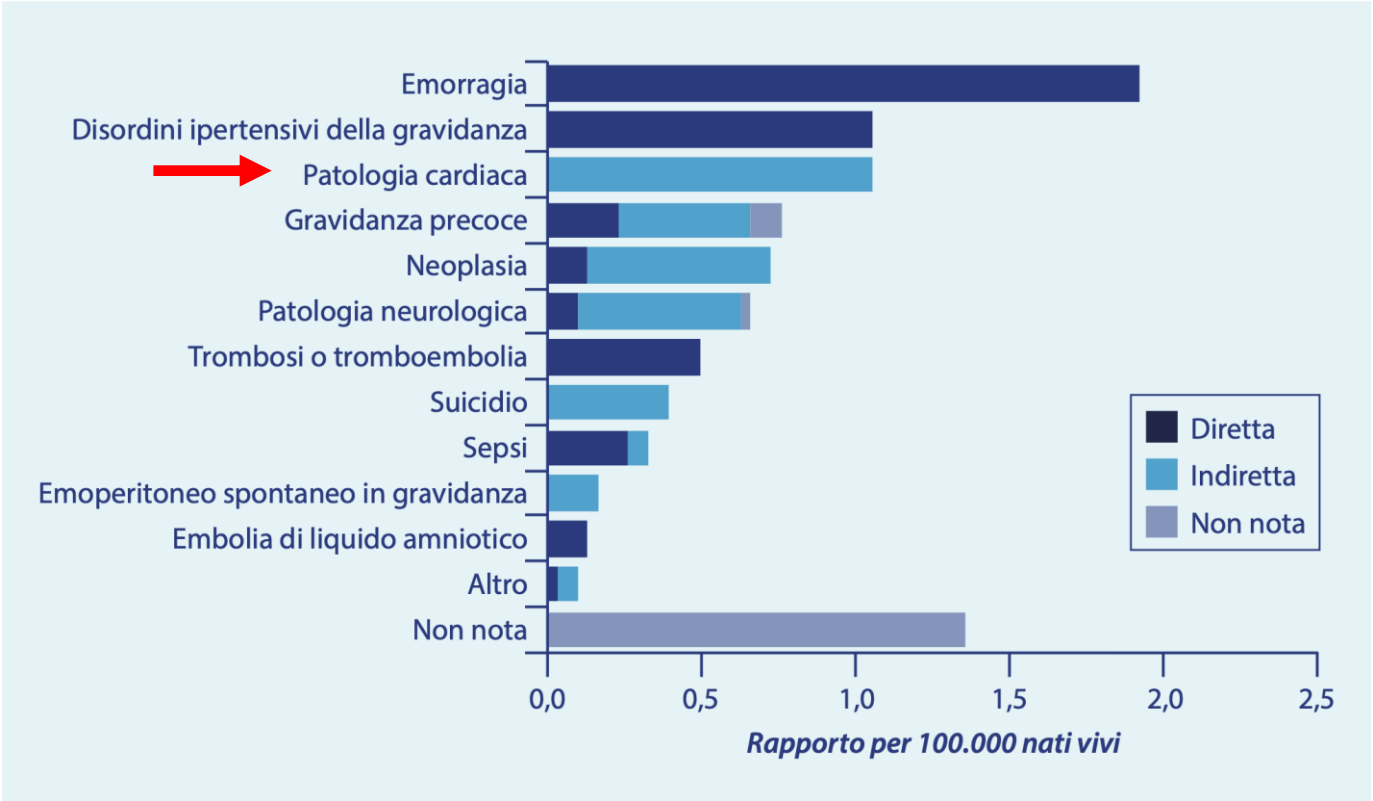
Rapporto ISS di mortalità materna (MMR)< 42 gg

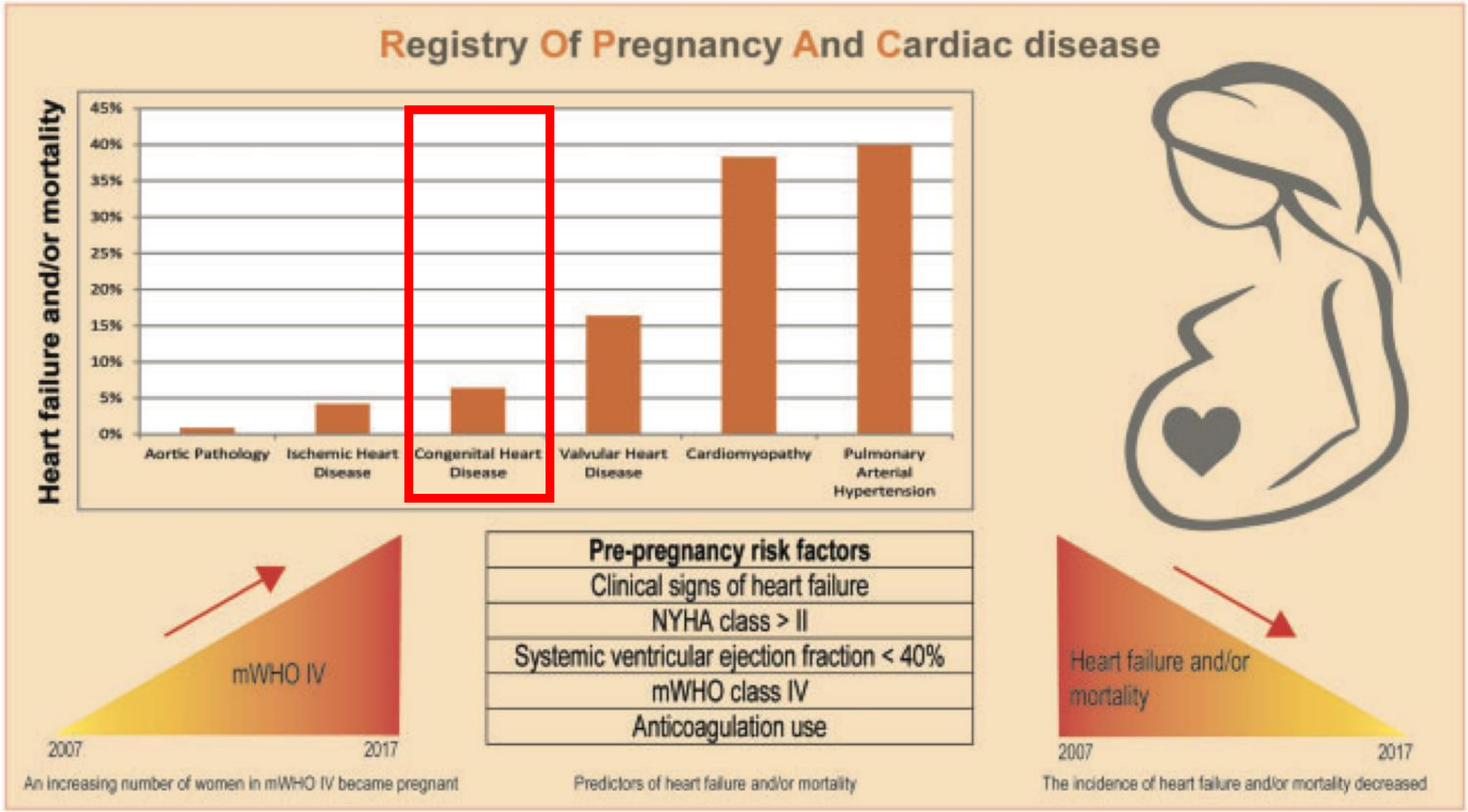
Anni 2012-2016. MMR 10 morti su 100.000



I tumori, insieme ai suicidi e alla patologia cardiaca, sono complessivamente responsabili di quasi il 60% delle morti materne tardive (>42 gg)

Primo Rapporto ItOSS
Sorveglianza della Mortalità Materna
Italian Obstetric Surveillance System (ItOSS)

Il rischio nelle donne con cardiopatia



J. Roos-Hesselink et al. , EHJ 2019

Rischio materno-fetale

Maternal cardiac risk

Common complications of congenital heart disease?

Arrhythmias

Heart failure

Thromboembolic events

These complications can lead to need for major surgery, disability, premature death

Maternal obstetric risk

Higher incidence of

Miscarriage

Preterm pre-labour rupture of membranes

Postpartum haemorrhage

Fetal Risk

Higher incidence of

Fetal growth restriction

Preterm birth

Intracranial haemorrhage

Fetal and neonatal death

Congenital heart disease in infant:

Risk 3%-50% (background risk 0.8%)

Cauldwell et al, BMJ 2018

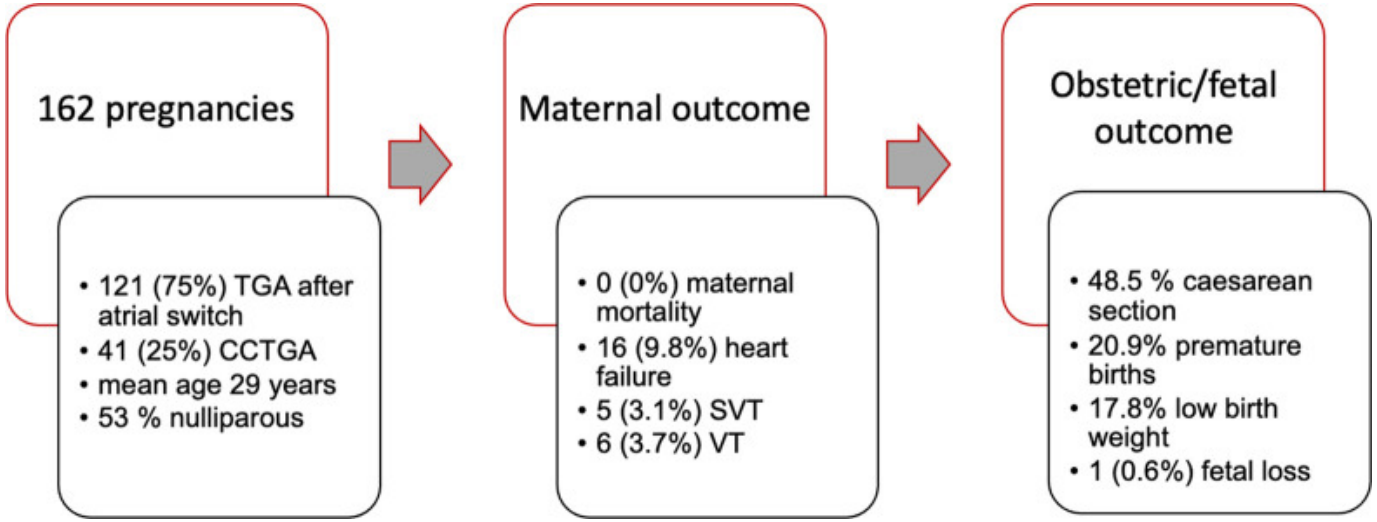
La classificazione WHO

WHO pregnancy risk category	Risk description	Maternal risk factors
I	No detectable increase in maternal mortality and no/mild increase in morbidity risk	Uncomplicated mild pulmonary stenosis, patent ductus arteriosus Successfully repaired simple lesions (ASD, VSD, PDA, partial anomalous pulmonary venous return)
II	Small increase in maternal mortality and moderate increase in morbidity risk	If otherwise well and uncomplicated; - Unoperated ASD, VSD - Repaired TOF - Most arrhythmia
II-III	Moderate increase in maternal mortality and morbidity risk	Mild LV impairment Native or tissue valvular disease Aortic dilatation < 45 mm in bicuspid AV aortopathy Repaired coarctation
III	Significantly increased maternal mortality or severe morbidity risk	Mechanical valve Systemic RV Fontan Cyanotic heart disease (unrepaired) Other complex CHD Aortic dilatation 45–50 mm in bicuspid aortopathy
IV	Extremely high maternal mortality or severe morbidity risk	Pulmonary arterial hypertension Severe left ventricular impairment (EF < 30%) Previous peripartum cardiomyopathy Severe mitral stenosis Severe symptomatic aortic stenosis Native severe coarctation Aortic dilatation > 50 mm in bicuspid AV aortopathy

CHD e gravidanza: WHO III

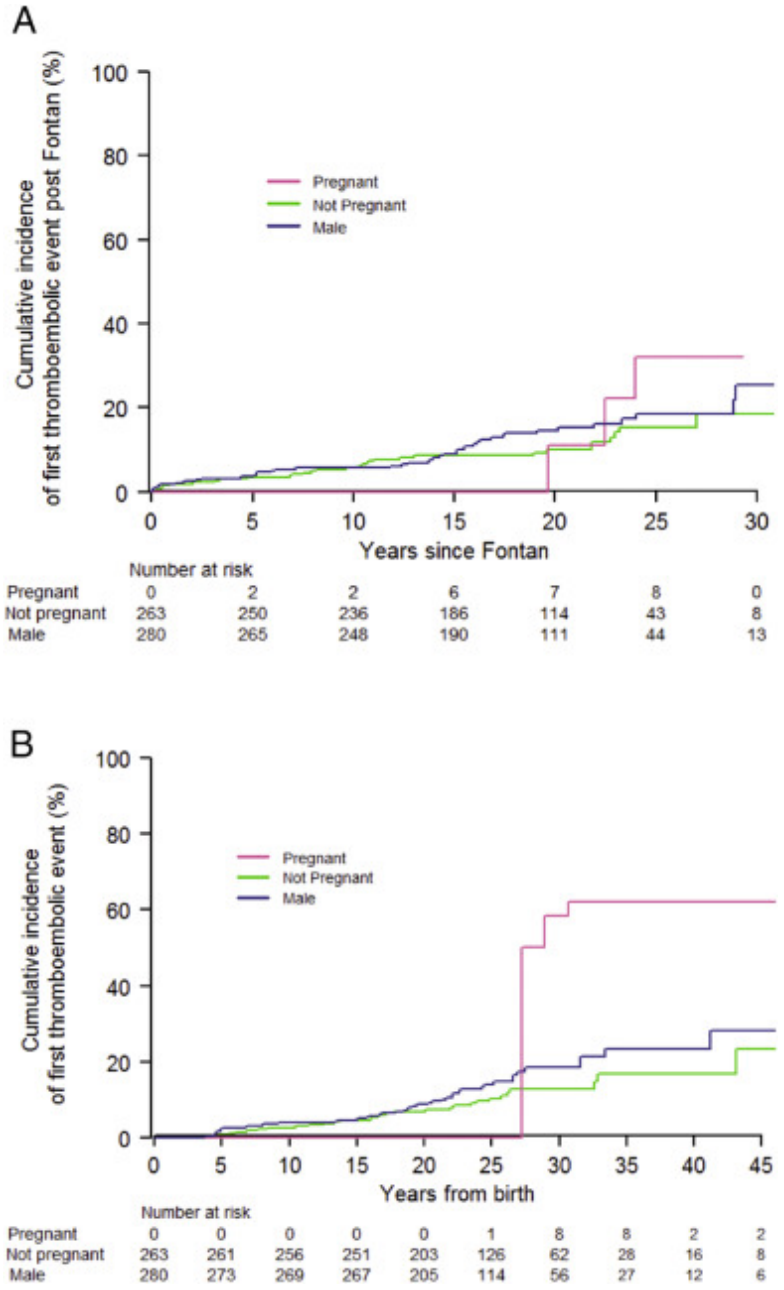
- Cardiopatie cianotiche: Sat <90% → ridotta fertilità e incremento di aborti. SatO<85% → live birth rate 12%.
  (Presbitero et al, Circulation 1994)

- Ventricolo destro sistemico:
  (Tutarel et al ROPAC investigator group, Heart 2022)



CHD e gravidanza: WHO III

- Fontan: aumentato rischio di scompenso, aritmia, trombosi-tromboembolia



Moroney et al, IJC 2020

CHD e gravidanza: WHO III

- Protesi meccaniche: trombosi in gravidanza 6,7%, eventi 42% (ROPAC)

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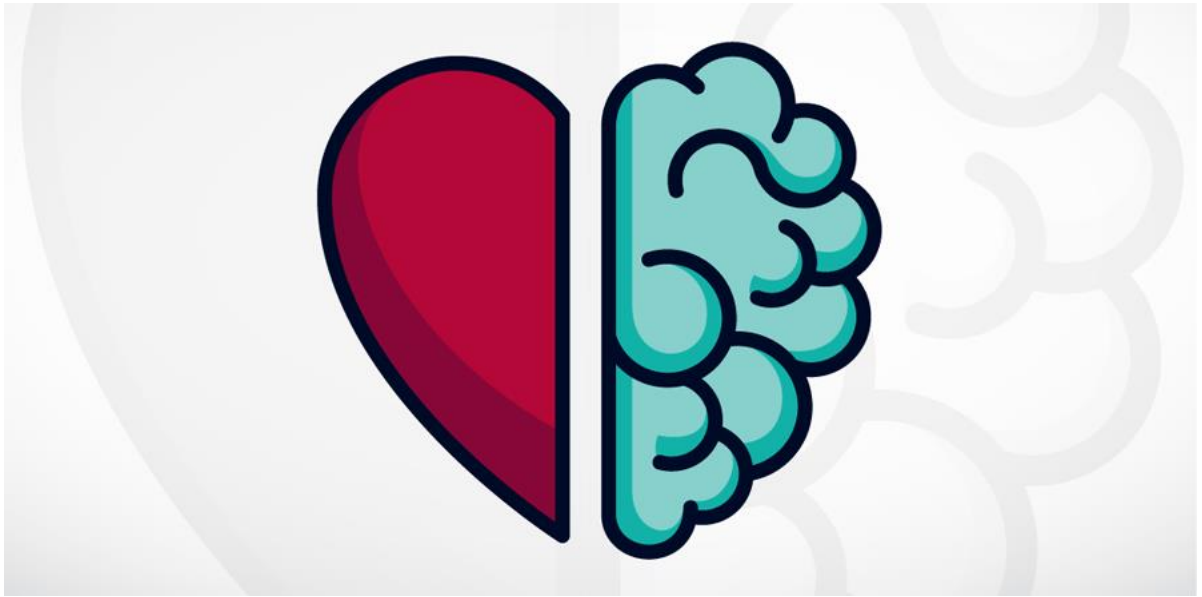
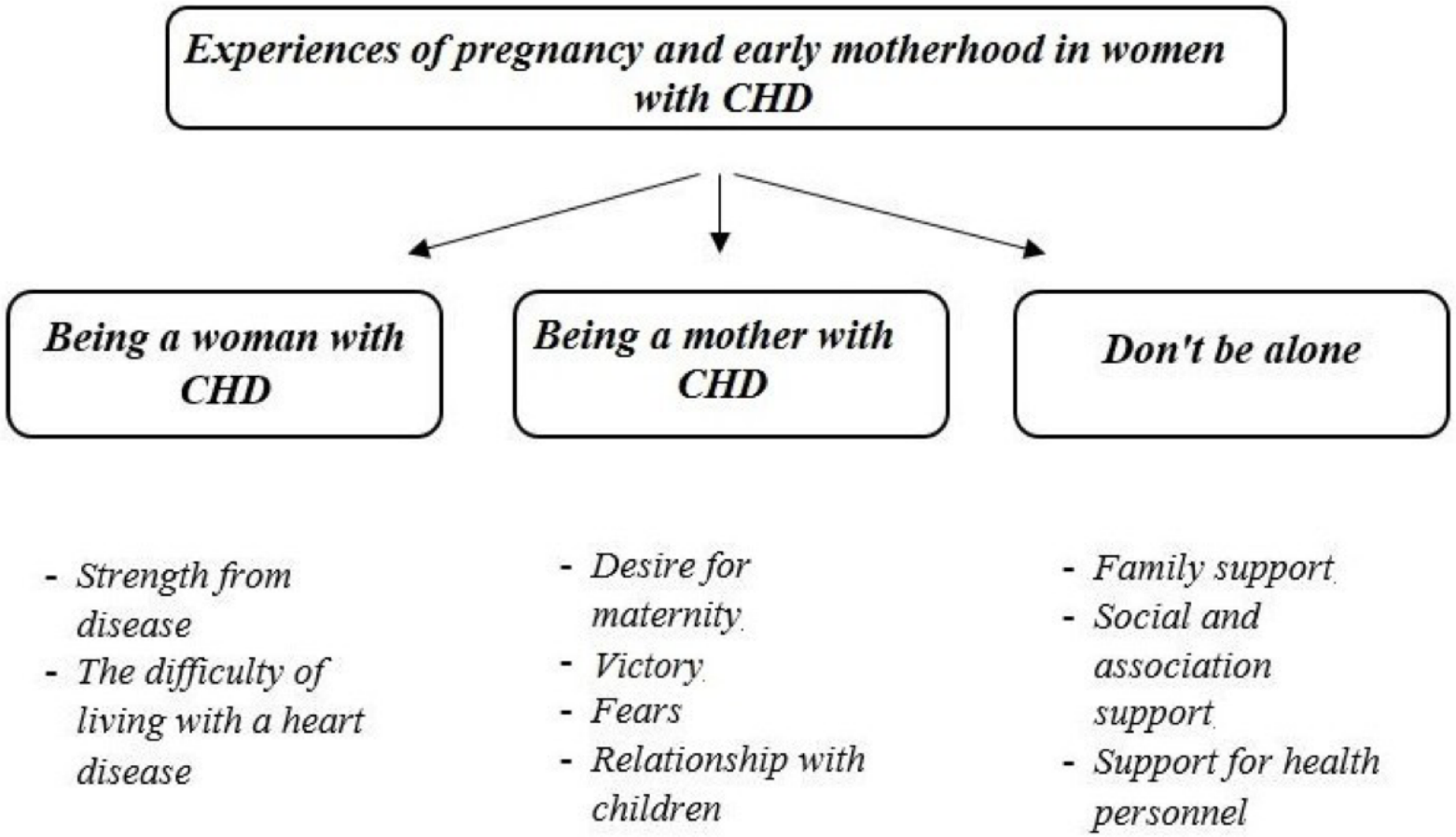
Le donne con cardiopatia congenita: non solo cuore



Le donne con cardiopatia congenita: non solo cuore



Flocco SF, et el. BMJ open 2020

Gravidanza e GUCH: un rischio da affrontare !?

Gravidanza e GUCH

DON'T
PANIC
AND
STUDY
HARD

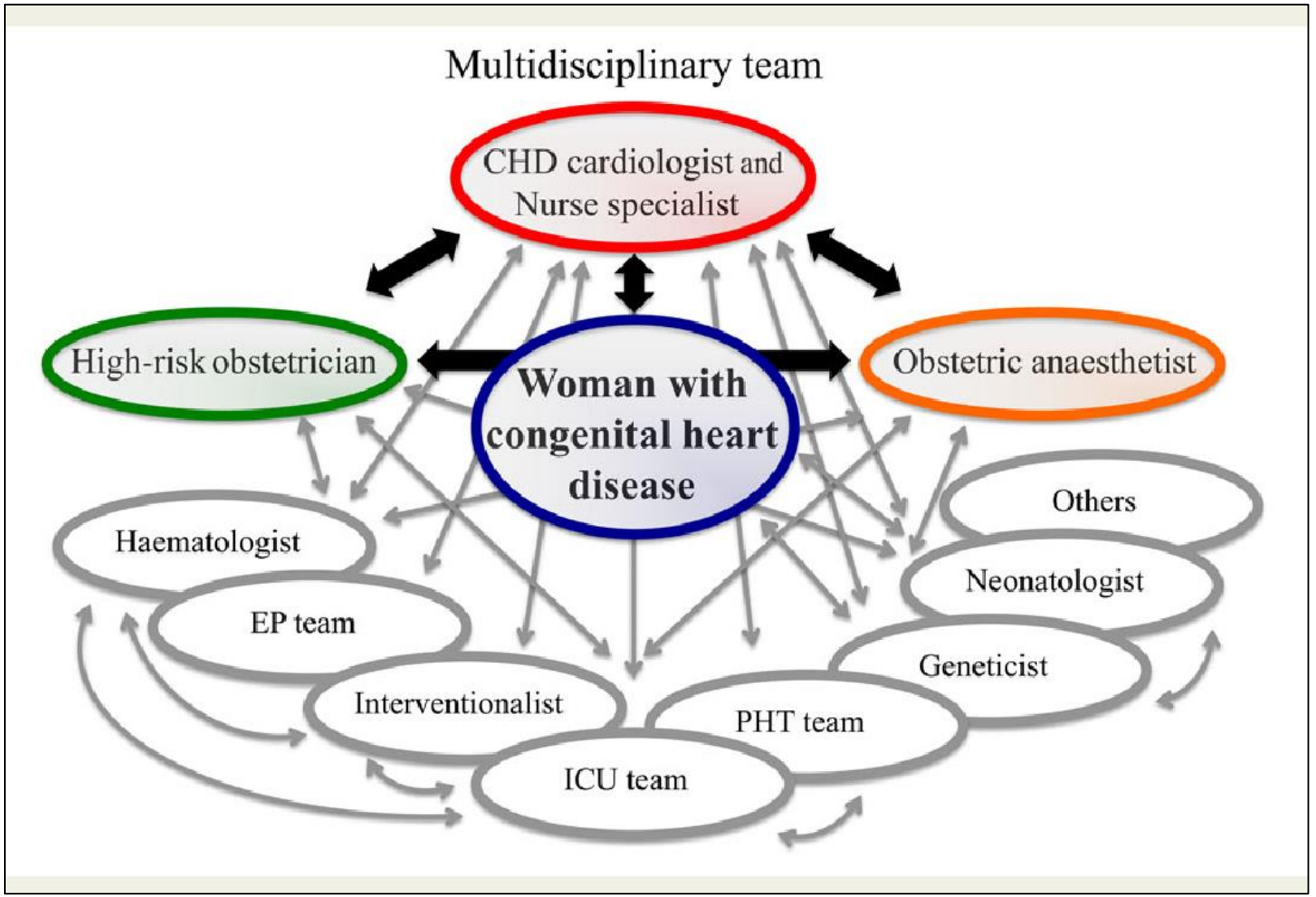
ESC European Society of Cardiology

European Heart Journal (2018) **39**, 3165–3241
doi:10.1093/eurheartj/ehy340

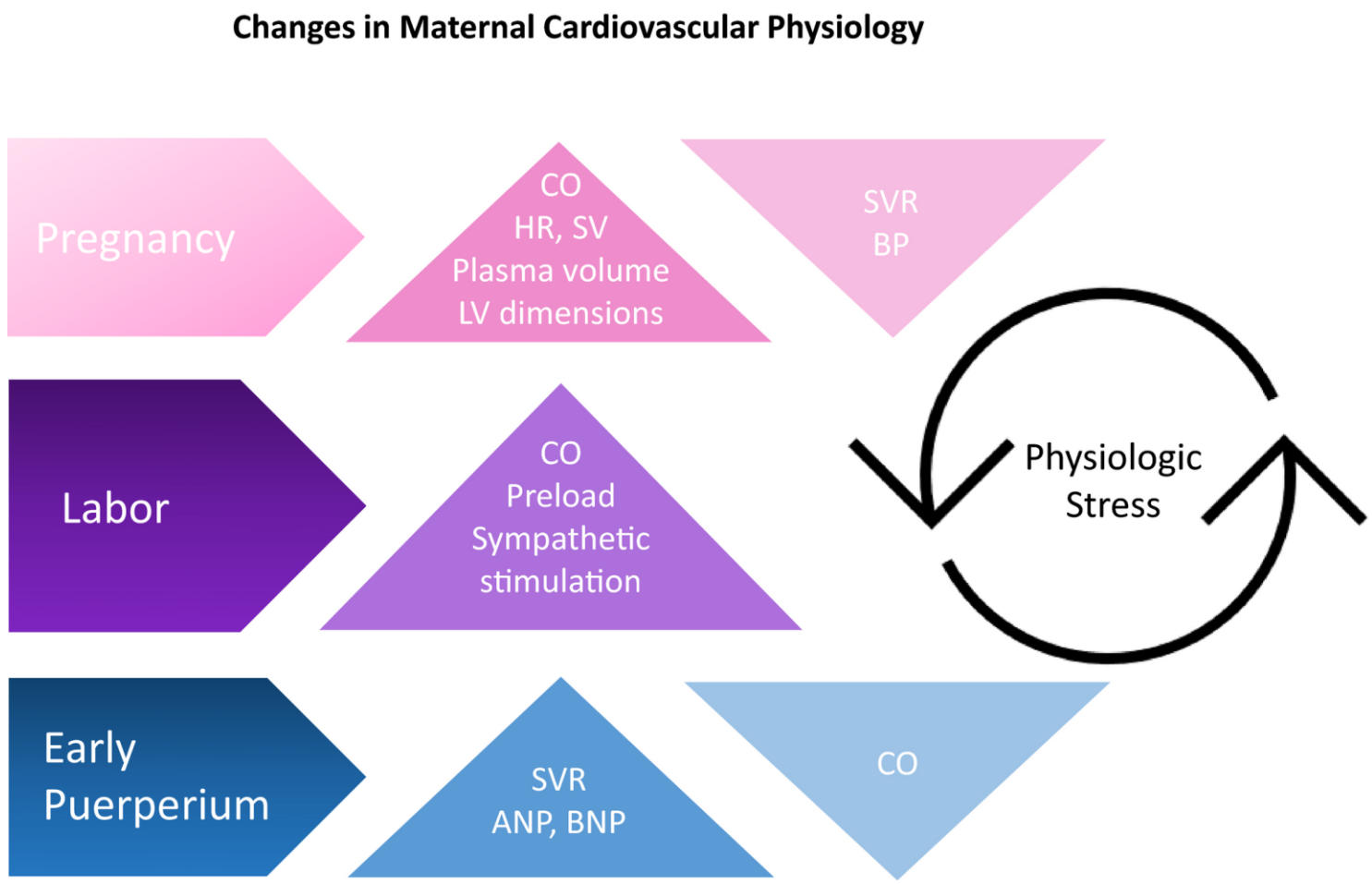
ESC GUIDELINES

2018 ESC Guidelines for the management of cardiovascular diseases during pregnancy

Team multidisciplinare e lo Specialista “fluido”



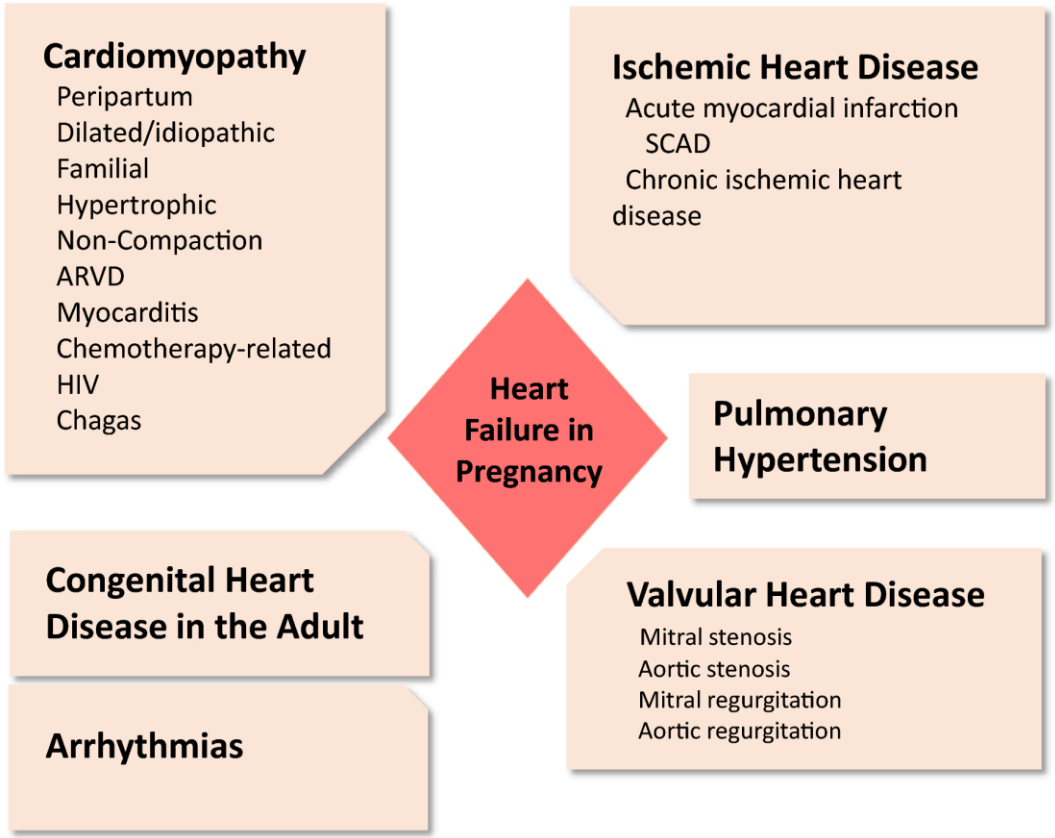
Gravidanza e emodinamica



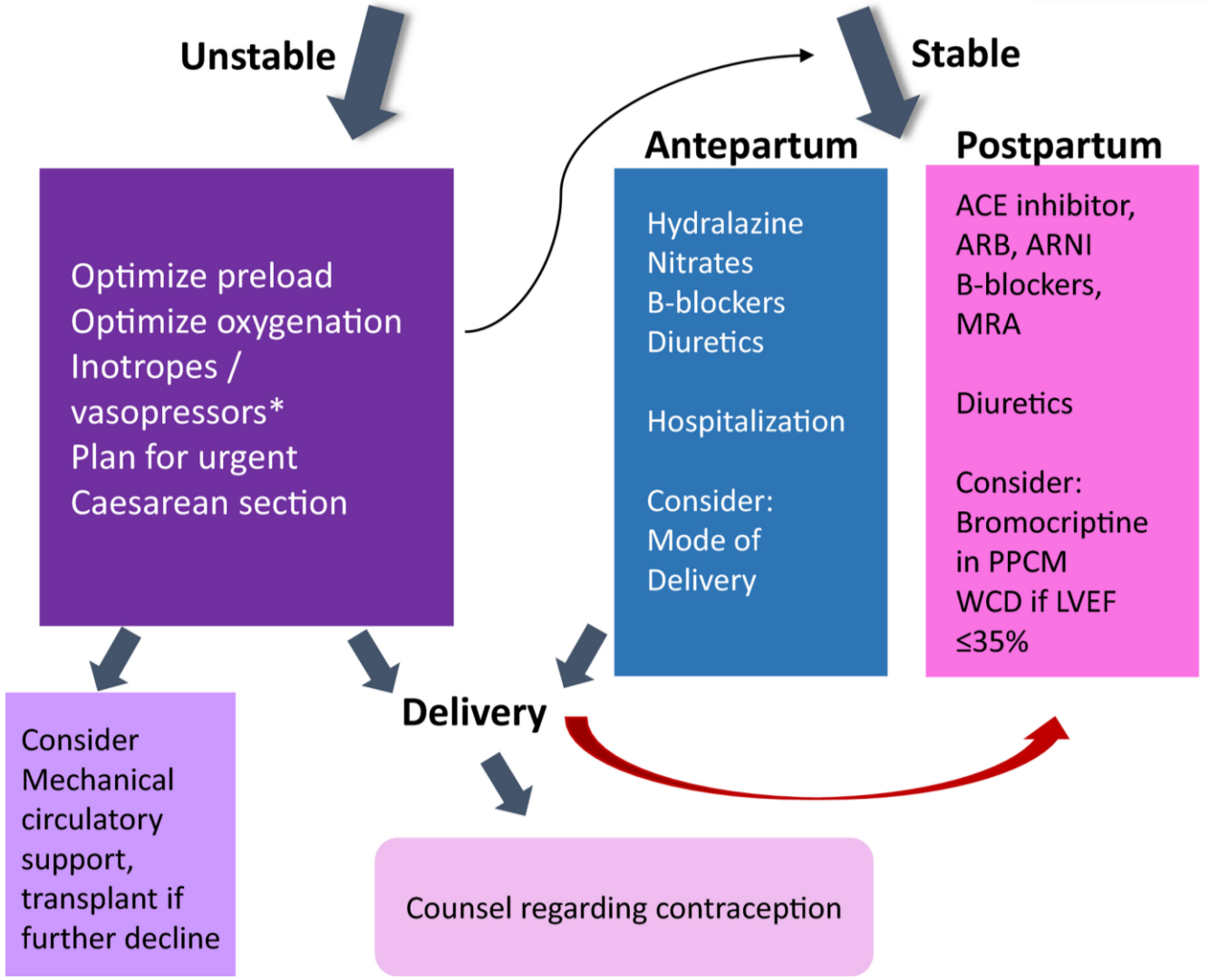
- +40% del volume circolante
- -15% di albuminemia
- + 30-50% cardiac output
- +10/20 bpm aumento della frequenza cardiaca
- Riduzione resistenze periferiche e polmonari
- Aumento della frequenza respiratoria

Scompenso cardiaco

- CMP e PH alto rischio
- CHD hanno meno eventi
- Fattori ostetrici
- Fattori non modificabili (età, razza)



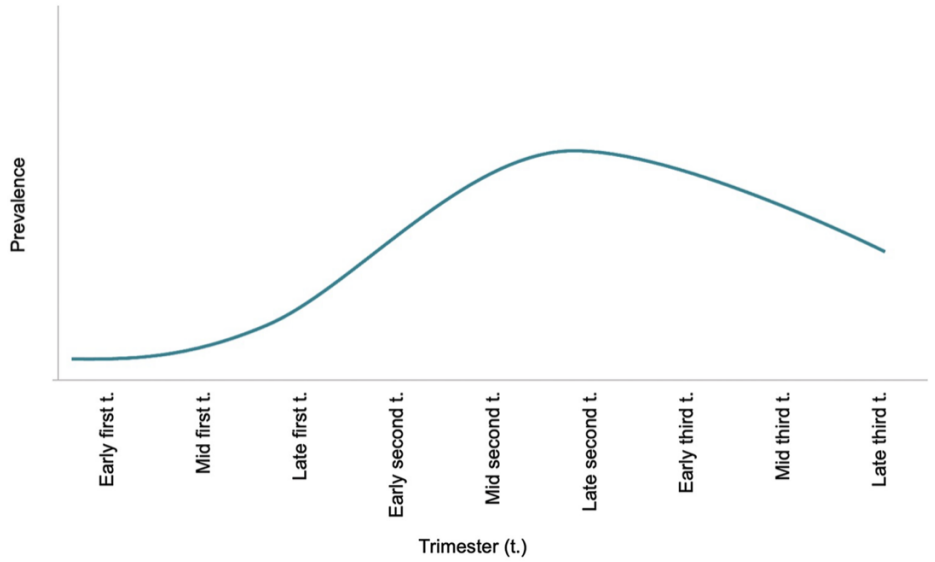
Scompenso cardiaco



Bright, JAHA 2021

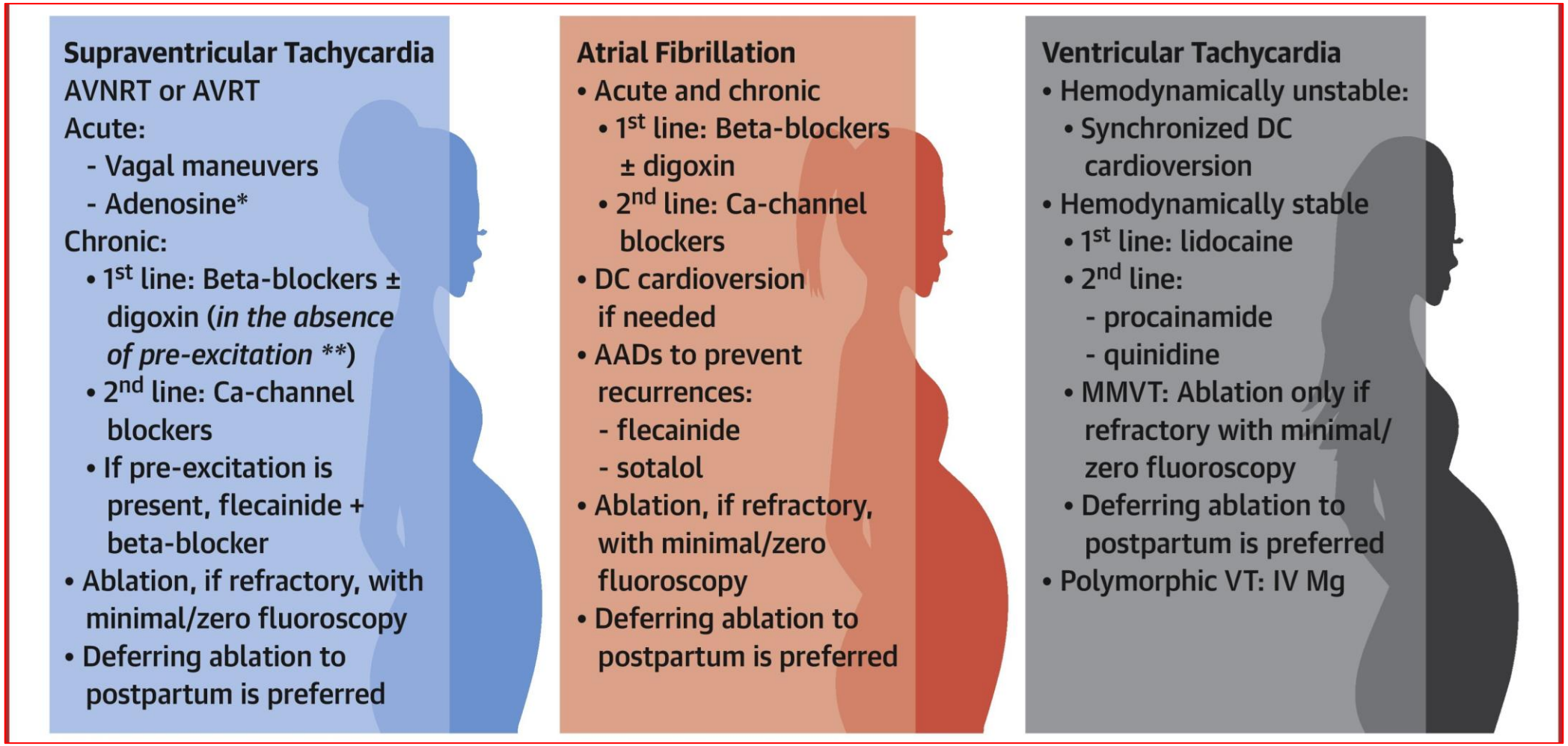
Aritmie in gravidanza

Figure 2 Palpitations at different stages of gestation.11,12,14,15 This ...



Europace, Volume 24, Issue 7, July 2022, Pages 1041–1051, https://doi.org/10.1093/europace/euab297

Aritmie e gravidanza



Tamirisa K, et al , *J Am Coll Cardiol EP.* 2022

Aritmie e gravidanza

Cardiac Arrest

- Resuscitation/CPR protocol is unchanged
- Manual lateral displacement of uterus
- Administration of drugs above the diaphragm to facilitate resuscitation
- Preparation for early cesarean delivery to improve maternal and fetal survival
- No medication should be withheld out of concerns for fetal teratogenicity
- Drug doses and defibrillation energy protocols remain unchanged

Device Management

- Disable shock therapy on ICDs during labor and delivery, fetal and maternal cardiac monitoring recommended
- Devices can be implanted safely with minimal/zero fluoroscopy
- Wearable cardioverter defibrillator can be used instead of device implantation

Tamirisa K, et al , *J Am Coll Cardiol EP.* 2022

Interventi in gravidanza

Intervento pecutaneo:

- Meglio nel secondo trimestre
- Eco guidato
- Ridurre le radiazioni
- Schermatura addominale

SEF/ablazione

- Aritmie non responsive a terapia farmacologica

Intervento cardiochirurgico:

- alta mortalità fetale.
- Timing migliore 13-28 W.
- Flusso pulsatile
- Normotermia o lieve ipotermia
- Ht >28% e Pressione di perfusione >70 mmHg

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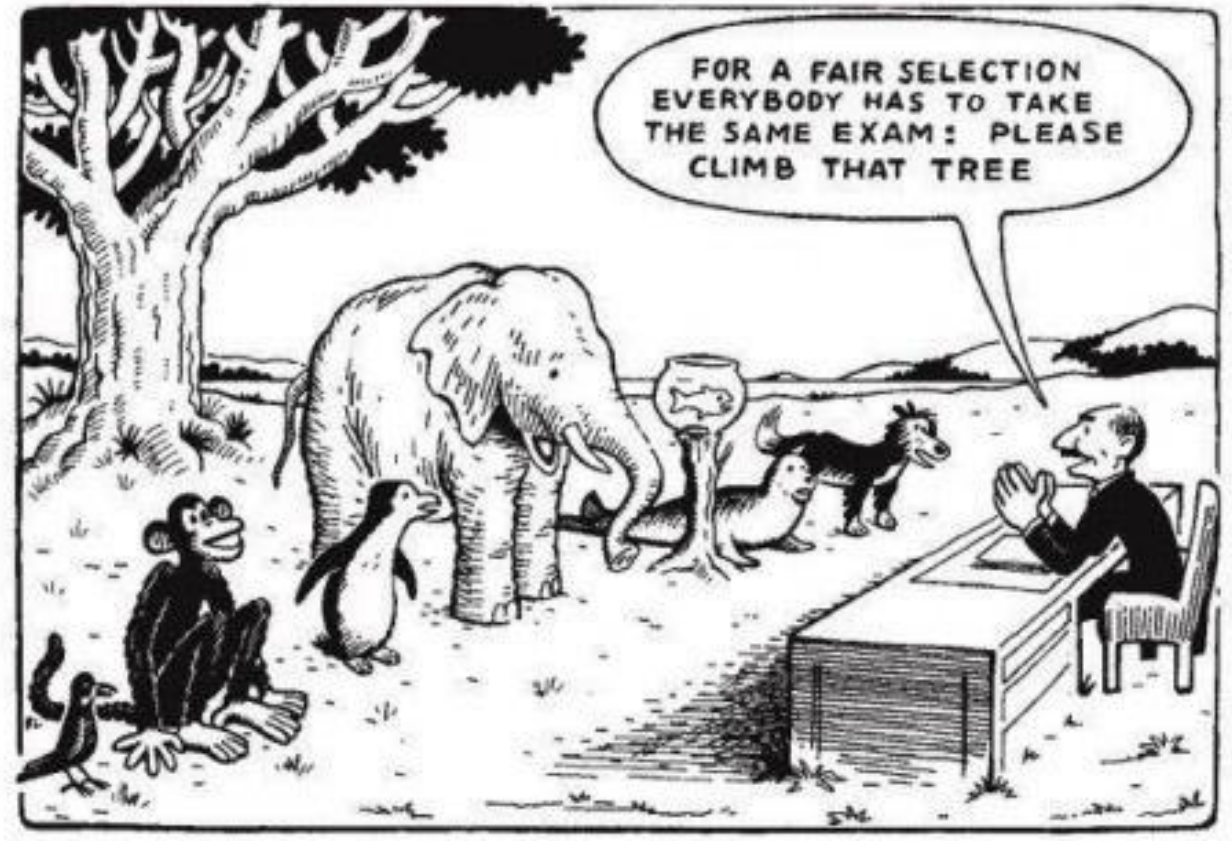
GUCH e gravidanza



One size does not fit all

L’esperienza del nostro centro

Ambulatorio Cardiopatie in gravidanza 2014-2022: 360 cardiopatiche seguite, 153 con cardiopatia congenita

E-mail: cuoreingravidanza@gmail.com

TOGETHER
EVERYONE
ACHIEVES
MORE

Grazie !