



IRC THURSDAY AFTERNOON LIVE

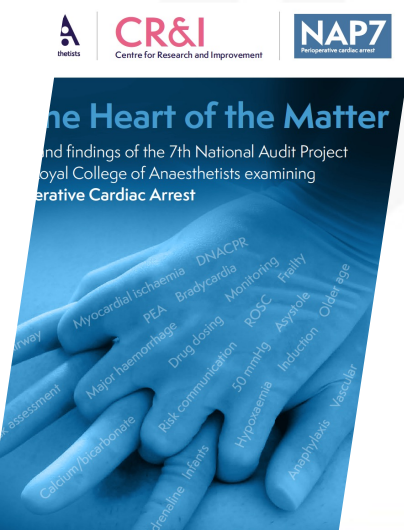


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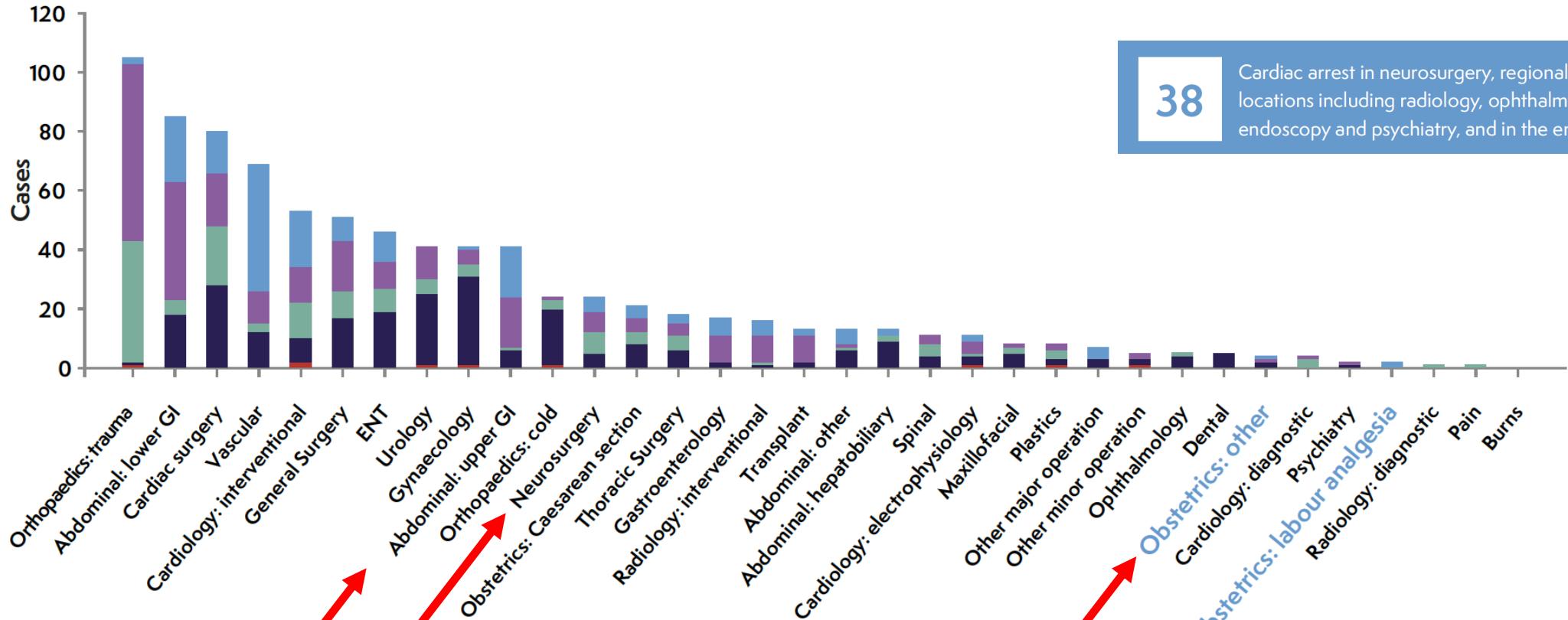


Arresto Cardiaco in Pazienti Speciali: Neurochirurgia, Ostetricia e Bariatrica

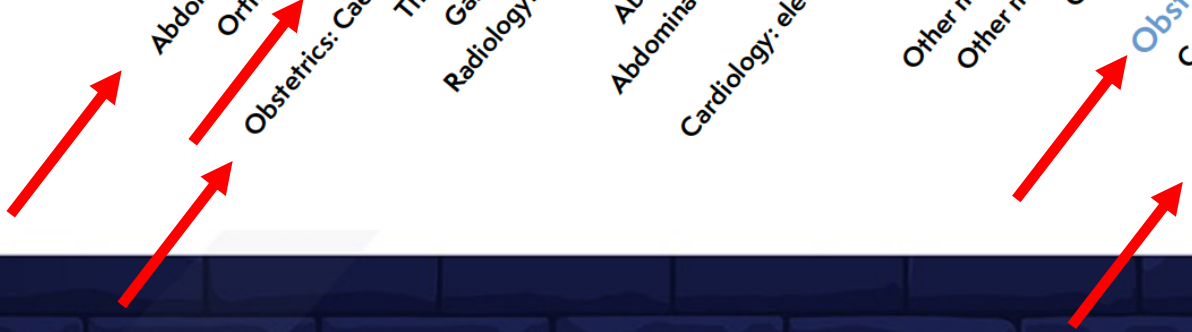
Riccardo Cusmà Piccione
Commissione ALS-ILS IRC



Arresto Cardiaco in Pazienti Speciali



38 Cardiac arrest in neurosurgery, regional anaesthesia, remote locations including radiology, ophthalmology, dental, endoscopy and psychiatry, and in the emergency department



Arresto Cardiaco in Neurochirurgia

Epidemiologia



- > 65 aa: 44%
- ASA IV – V: 26% - 11% = **Emergenza** (53%) – Urgenza (34%)
- **No prevalenza** di genere, etnia, BMI
- Week End 96%
- **Chirurgia maggiore** (70%)

62% ACC in sala operatoria

54% durante l'intervento chirurgico

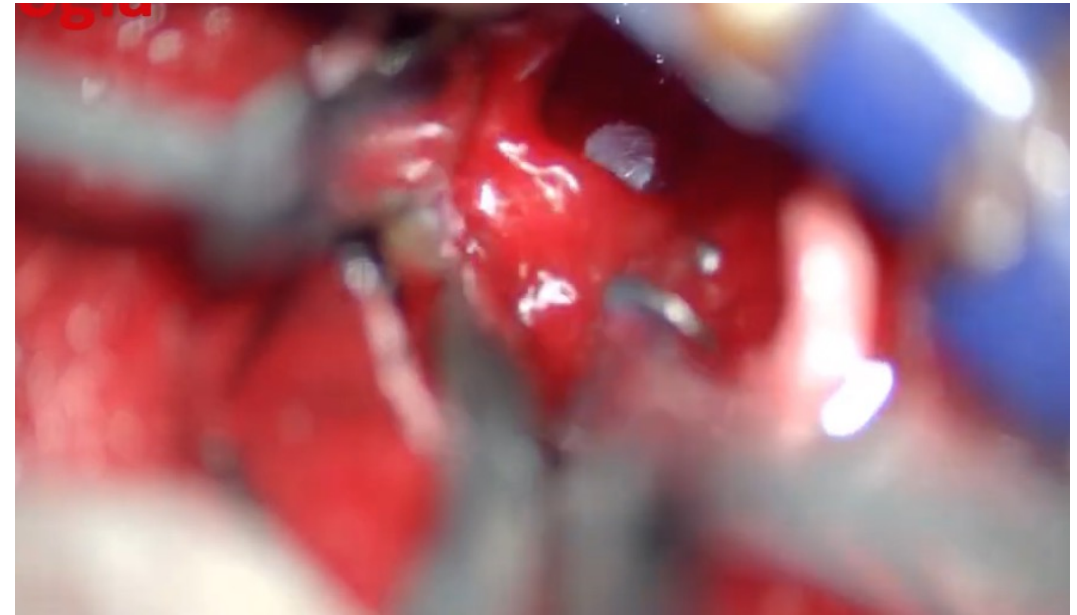
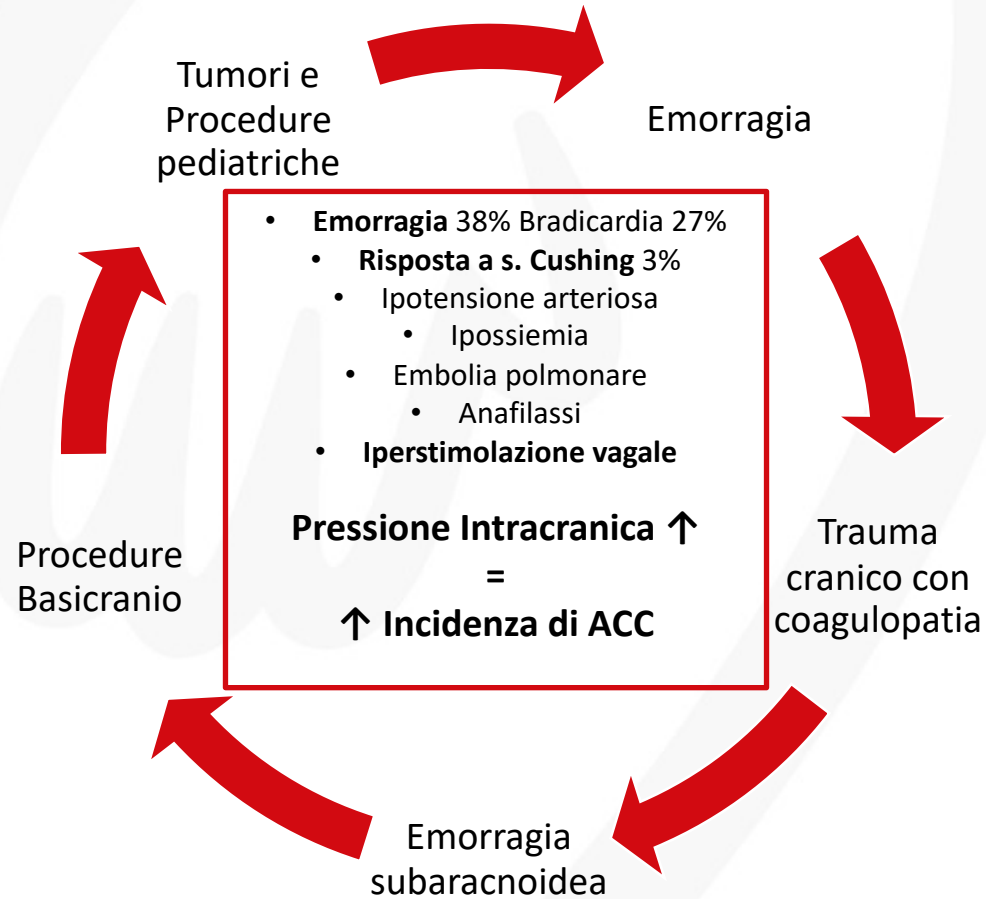
Rhythm	Neuro-surgical	All cardiac arrests (%)
Asystole	4	15
Bradycardia	3	15
Pulseless electrical activity	14	52
Pulseless ventricular tachycardia	3	5.6
Ventricular fibrillation	0	6.5

Riflesso Vasovagale centrale

Arresto Cardiaco in Neurochirurgia



Eziologia



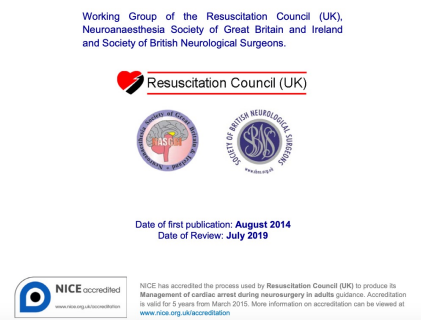
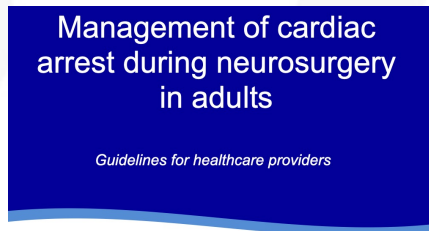
Arresto Cardiaco in Neurochirurgia

Raccomandazioni



Istituzioni

- **Neurosurgery Advanced Life Support** Guidelines UK
- **Training** on the job
- Rete anestesiologicala
- **Protocolli** specifici locali
- **Formazione** di ALS providers

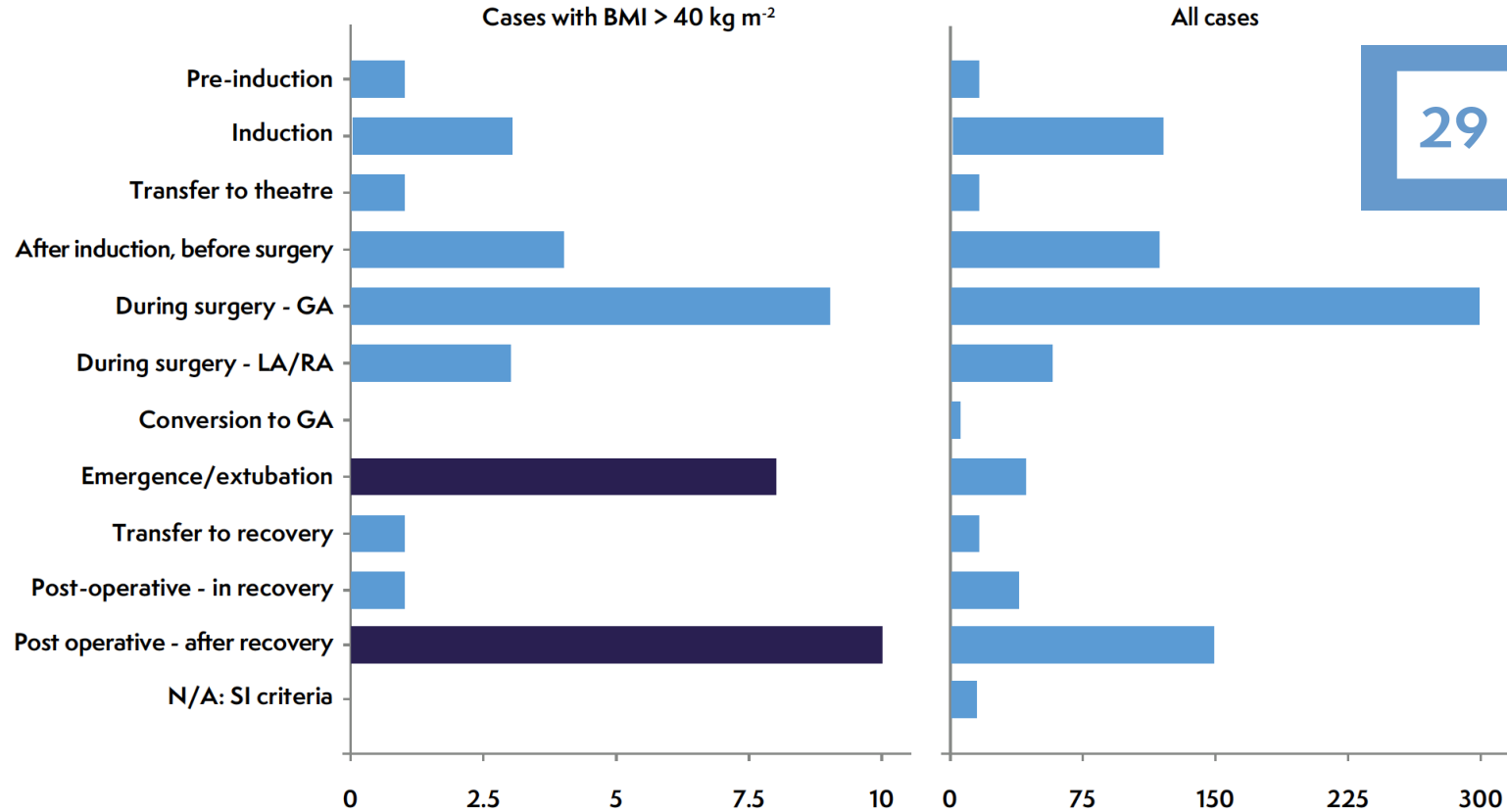


Individuali

- Conoscenza **cause specifiche** di aritmia (es. bradicardia = riflessi neurocranici) = Anticipazione
- Attenzione su pz con **incremento PIC** (\uparrow PIC = \uparrow ACC)
- **Neurosurgery + Remifentanil** in pz anziani, APR di bradicardia, NCH con stimolazione vagale = \uparrow ACC
- **Call the expert**

Arresto Cardiaco in Bariatrica

Epidemiologia



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Obesity and perioperative cardiac arrest

Arresto Cardiaco in Bariatrica

Eziologia



BMI	Definizione	% ACC NAP7
<18.5	Sottopeso	2%
18.5 – 24.9	Normopeso	38%
25 – 29.9	Sovrappeso	28%
30 - 34.9	Obesità I stadio	18%
35 – 39.9	Obesità II stadio	8%
≥ 40	Obesità III stadio	5%

Obesity is a multisystem disorder associated with many pathologies that increase perioperative risks. These include:

- sleep-disordered breathing, which can commonly be undiagnosed
- systemic hypertension
- ischaemic heart disease, often present at an earlier age
- heart failure
- cardiac conduction defects and arrhythmias
- diabetes mellitus
- metabolic syndrome.

Arresto Cardiaco in Bariatrica

Raccomandazioni



Popolazione bariatrica in aumento

↑ 25% complicanze in pz bariatrici

BMI ↑ = ↑ ACC

Complicanze in gestione delle vie aeree, ipossiemia e postoperatorie

Outcome basso a causa delle condizioni cliniche pre - esistenti

Recommendations

None.



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Arresto Cardiaco in Ostetricia

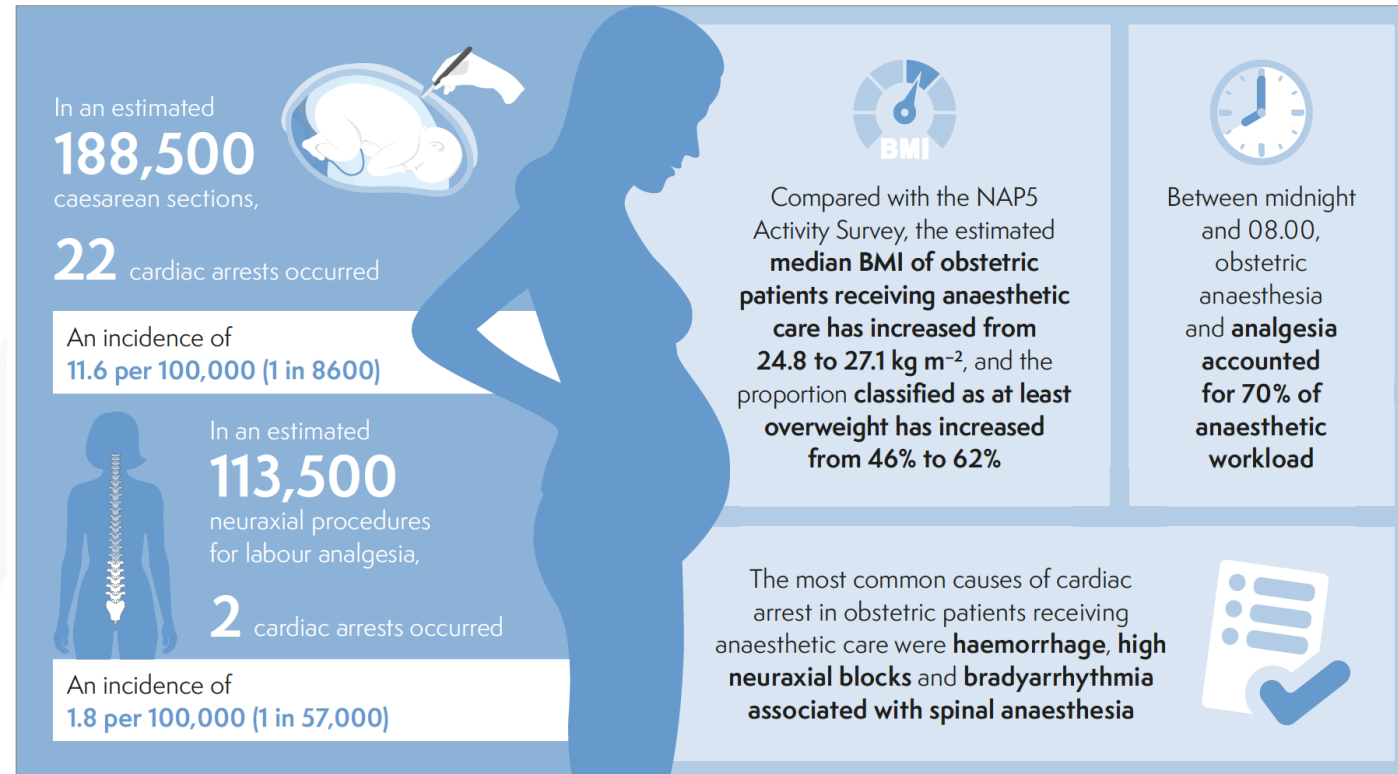
Epidemiologia



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Cardiac arrest in obstetric patients receiving anaesthetic care

- ACC ostetrico = **3.2%**
- Maggiore attività lavorativa: **24 – 8 AM** = **70%**
- 43% in **anestesia neuroassiale** per cesareo o emorragia
- 18% anestesia generale e neuroassiale



Arresto Cardiaco in Ostetricia

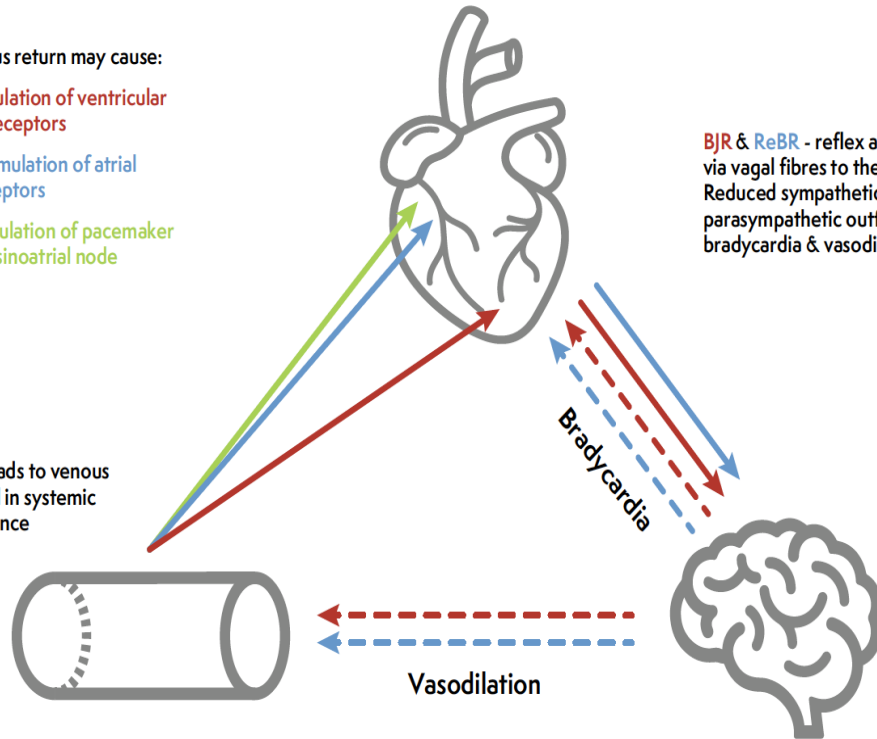
Eziologia



Reduced venous return may cause:

- **BJR** - ↑ stimulation of ventricular mechano-receptors
- **ReBR** - ↓ stimulation of atrial stretch receptors
- **PSR** - ↓ stimulation of pacemaker cells at the sinoatrial node

Vasodilation leads to venous pooling and fall in systemic vascular resistance



BJR & ReBR - reflex afferent signals travel via vagal fibres to the vasomotor centre. Reduced sympathetic / increased parasympathetic outflow promotes bradycardia & vasodilation

Cause of cardiac arrest	No. of patients affected (n=28)	Proportion of patients affected by a particular cause (%)
Major haemorrhage	7	25
High neuraxial block	6	21
Bradyarrhythmia	6	21
Amniotic fluid embolism	4	14
Drug error	2	7.2
Anaphylaxis	1	3.6
Pulmonary embolism	1	3.6
Severe hypoxaemia	1	3.6
Vagal outflow (eg pneumoperitoneum, oculocardiac reflex)	1	3.6
Other	12	42

Arresto Cardiaco in Ostetricia

Raccomandazioni



Istituzioni

- Sistema di **peer support** anestesiologicalo
- Anestesista **dedicato** per ostetricia e ginecologia
- Distribuzione personale **formato** in relazione alla distribuzione clinica dell'attività

Individuali

- **Anticipare** le complicanze in anestesia neuroassiale
- Anestesia spinale + compressione vena cava = **possibile causa** di bradi- e tachiaritmie
- **Attenzione** anestetico iperbarico
- Secondo tentativo di ALR = **aumento rischio** correlato
- **Riempimento volemico** nel controllo emorragico, in particolare se da ALR a AG





Conclusioni

- L'arresto cardiaco in pazienti speciali ha **peculiarità** in
 - **Cause** reversibili
 - **Trattamenti** specifici
 - **Complessità** cliniche, tecnologiche ed organizzative specifiche
- La **formazione** in ALS in circostanze e pazienti speciali è fondamentale
- **Specifico paziente = Specifico trattamento**



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