Delirium in cardiac surgical patients

**INSTRUMENTS TO DETECT DELIRIUM**

ASSESSMENT- INSTRUMENTE ZUR ERFASSUNG DES DELIRS

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Last decades great technical progress in cardiology:

- Many patients survived despite progressive cardiovascular conditions
- Cardiovascular diseases more and more frequent in frail elderly

Mahjoub et al, 2008
Martin-Pfizenmeyer et al, 2009
Challenge: older and more vulnerable patients

- More comorbid conditions
- Risk for geriatric conditions

DELIRIUM
DELIRIUM

DSM-IV-TR Criteria

- Disturbance of consciousness with reduced ability to focus, sustain, or shift attention.
- A change in cognition (memory deficit, disorientation, language disturbance) or the development of a perceptual disturbance (i.e. auditory or visual hallucinations) that is not better accounted for by a preexisting dementia.
- The disturbance develops over a short time (hours to days) and fluctuates during the day.
- There is evidence that the disturbance is caused by the direct physiological consequences of a general medical condition or substance.
DELIRIUM: EPIDEMIOLOGY

Cardiac surgery: ranges 3-70%

Cardiovascular ICU:

29% cardiology patients

24% cardiac surgery patients

Uthamalingam et al, 2011
Martin-Pfitzenmeyer et al, 2009
McPherson et al, 2013
WHY SHOULD NURSES CARE ABOUT DELIRIUM?
DELIRIUM OUTCOMES

- Increased mortality
- Therapy disruption
- Increased length of stay
- Increased morbidity
- Increased institutionalization
- Higher costs

Pun, Ely, 2007
Khan et al, 2012

↑ Stress in family members
Toy et al, 2013
DELIRIUM MANAGEMENT

• Primary prevention
• Early detection
• Prompt management

Shah et al, JAMA, 2007
NICE, 2010
Should be guided by an instrument that
1. Evaluates the primary components of delirium
2. Has proven validity and reliability
3. Can be completed quickly and easily
4. Does not require the presence of psychiatric personnel

Phandaripande et al, 2005
• Clinical Assessment of Confusion (CAC)
• Confusion Assessment Method (CAM)
• Confusion Assessment Method Intensive Care Unit (CAM-ICU)
• Delirium Observation Screening Scale (DOSS)
• Delirium Rating Scale (DRS)
• Intensive Care Delirium Screening Checklist (ICDSC)
• Memorial Delirium Assessment Scale (MDAS)
• Neecham Confusion Scale
• Nursing Delirium Screening Scale (Nu-DESC)
• ………………………
DIFFERENT TYPE OF INSTRUMENTS

• OBSERVATION
  Example Delirium Observation Screening Scale

• TEST
  Example Confusion Assessment Method ICU

• INTERVIEW
  Example Confusion Assessment Method
Confusion Assessment Method

Worldwide most frequent used in research and practice

Inouye et al, 1990; Wong et al, JAMA, 2010
Most specific bedside tool for ICU

However, significant heterogeneity in results: most positive in research, less in routine daily practice (Serpa Neta et al, Crit Care Med, 2012)
ESPECIALLY FOR NURSES
OBSERVATION OF THE PATIENT

DOS (0-1) (Schuurmans et al, 2003)
1. Dozes off during conversation or activities
2. Is easily distracted by stimuli from the environment
3. Does not lose attention to conversation or action
4. Does not finish question or answer
5. Give answers that do not fit the question
6. Reacts slowly to instructions
7. Thinks to be somewhere else
8. Knows which part of the day it is
9. remembers recent event
10. Is picking, disorderly, restless
11. Pulls IV tubes, feeding tubes, catheters etc.
12. Is easy or sudden emotional
13. Sees/hears things which are not there

Nu-DESC (0,1,2) (Gaudreau et al, 2005)
1. Desorientation
2. Inappropriate behavior
3. Inappropriate communication
4. Illusions and hallucination
5. Psychomotor retardation
IN CARDIAC SURGERY PATIENTS

**DOS** (Koster et al, 2009)

112 patients
Mean age 70 (SD 7.3)
37.5% CABG, 36.6% heart valve surgery
21.4% delirious (DSM-IV diagnosis by psychiatrist)
Sens: 100%
Spec: 96.6%
AUC: 0.98

**Nu-DESC** (Claesson Lingehall, 2012)

142 patients
Mean age 76.6 (SD 4.4)
59.9% CABG, 19.7% heart valve surgery
54.9% delirious (MMSE+ OBS by trained research nurse)
Sens: 65.5%
Spec: 94.9%
AUC: 0.80
Predominantly hypoactive subtype in cardiac surgical patients

McPherson et al, 2013

88%
Which patients are at risk?
The older
The sicker
The more cognitive decline
The more functional limitations

The more chance of delirium postop
Awareness, knowledge, baseline information & systematic screening
FUTURE
DELIRIUM IN CARDIAC CARE

You can make the change!