SASA 2012 – Congress Day 3

Ross's Rough Notes

Is there a role for pre-emptive analgesia – Janneke van Nugteren – Groote Schuur Hospital/University of Cape Town

- "Treatment initiated before and operational during the surgical procedure in order to block the physiological consequences of painful stimuli"
- 2 approaches – PRE vs. NO and PRE vs. POST
- Basic physiology: Tissue damage -> peripheral sensitisation -> altered transductions and increased conduction to CNS -> hyperalgesia & allodynia
- Central sensitisation = pain memory in the dorsal horn. Good article: Latremoliere A et al J Pain 2009;10:895-926
- First-line sensitisation = normal response to early sensitisation. Protective mechanism to reduce ambulation and promote healing.
- Second-line sensitisation = ongoing peripheral inflammation and nerve injury. Spontaneous peripheral ectopic generation of action potentials, structural changes in synaptic function, apoptosis of inhibitory interneurons, etc.
- Woolf CJ, Central sensitisation; Pain 2011;152:S2-15
- Clinical evidence for pre-emptive analgesia:
    - 6 Systematic reviews, fraught with issues.
    - Biggest = Moiniche et al 2002 & 2004. Very contradictory results. NSAIDs more promising, LA/epidural no good.
    - Next biggest = Ong: LA/epidural useful!
- What about ketamine?
    - Remerand et al AA 2009 – significant reduction in ketamine group
    - Sen H et al AA 2009 – reduction in ketamine and gabapentin groups
    - Ryu HG et al Clin Pain – ketamine no good
    - Duale et al Eur J Pain – no difference
- What about gabapentinoids?
    - Sen Het et al Eur J Anaes – reduction in gabapentin group
    - Buvanendran A et al AA 2010 – No neuropathic pain in pregabalin group, 5% in control group
    - Burke et al AA 2010 – decreased VAS with pregabalin
- Why have studies failed us?
    - Inadequacy of the animal experimental model
    - Insufficiency of pre-emptive analgesic techniques (we don't know what we should be using, for how long, and how much)
    - Operations are not equal; surgical techniques differ, etc.
    - Complex physiology
    - Difficult outcome measures
    - Patient factors

- Should we be abandoning the term “pre-emptive” analgesia and aim for “preventative” analgesia (adequate duration, adequate intensity). See Dahl & Kehlet
- Further strategies:
    - Good study design – detailed pre-op assessments, identifying high risk patients, documenting surgical handling of nerves, assessing functional consequences of pain
    - Procedure-specific pain guidelines (See www.prospect.org)
    - New drug designs – blocking nerve growth factors, modulating microglial activation, transient receptor potential antagonists, cytokine antagonists.

Opioids and Respiratory Depression: PCA – Eric Hodgson – UKZN

- Classify patient and surgical risk and try to match the two to achieve adequate pain control
- Assess pain control and sedation – AVPU scale useful. Pain can only be rated by patients who are spontaneously awake. Patients who have to be woken to ask them about pain don’t need more analgesia!
- Graded response to pain stimulus: glabella tap -> trapezius pinch -> jaw thrust
- Asleep patients: if RR>10, leave to sleep. If RR<10, assess LOC
- VAS is a research tool. Just ask your patients to assess their pain (need drugs or not?)
- Premedication/night sedation:
    - Benzo’s can cause paradoxical reactions and be ant-analgesic
    - Amitriptyline synergistic and sedative
- PCA drugs:
    - Morphine – long on and off-set. Active metabolite (M6G) which accumulates with renal dysfunction
    - Fentanyl – gaining favour. No active metabolites
    - Pethidine (meperidine) – absolute no
    - Tramadol – anecdotal success
    - Ketamine – limited efficacy in unselected patients. Good in opiate resistance and chronic PCA use
    - Alpha2 agonists – synergistic and antiemetic.
    - Ketamine + dexmedetomidine as “opioid resensitisers”
    - Antiemetics – metoclopramide doesn’t help and risks EPSEs. 5-HT3 antagonists good. Don’t bother if the patient doesn’t complain of nausea
- IM injections – either ineffective or too effective! Subcutaneous is possibly better, using frequent small boluses.
- PCA does have risks of adverse effects
    - Excessive sedation -> coma -> death
    - Local anaesthetic toxicity
    - Medication errors
    - Accumulation
- Principles of PCA safety:
    - Avoid IV PCA; use SC
    - Use disposable pumps for opioids; mechanical for local

    - If using a lager bolus, use a longer lockout.
    - Background infusions only in HDU
    - In the wards use only PCA (not NCA)
    - Morphine still the most widely used; fentanyl in elderly/OSF
- Local techniques
    - Keep it CIMPLE
    - Field infiltration, catheters in wounds, nerve or plexus blocks
- PCEA is gradually becoming less popular as the rate of peripheral catheter use increases
- Future
    - wound and US-guided catheters
    - PCRA (patient controlled regional anaesthesia)
    - Liposomal bupivacaine (Exparel)
- Beware: BTTWWADI (But That's The Way We've Always Done It!)
- www.riskybusinessafrica.co.za
- http://tinyurl.com/817px9y

The Link between Acute Postoperative Pain and Chronic Pain Syndromes – Gillian Lamacraft

- Pain is a common feature before surgery and almost always follows surgery
- Postsurgical pain is the second most common cause of chronic pain in Pain Clinics (most common = degenerative cause)
- Macrae and Davies (1999) – pain lasting more than 2 months after surgery, if other causes (eg. malignancy/infection) have been explored and excluded
- Incidence of Chronic Post-Surgical Pain (CPSP)
    - Likely to be linked to the level of damage (but can occur with minor surgery)
    - Well recognised after certain types of surgery (eg. amputation)
    - Also happens after other types - hernias, breast augmentation, vasectomy!
    - Incidence 30% after Pfannenstiel caesarean section!
- Basic physiology – see earlier talk. See also CMAJ 2006
- Current interest in the epsilon isoform of protein kinase C
- Risk factors for CPSP
    - Modifiable – pre-operative pain; long-term opioid use
    - Non-modifiable – age, genetics
- Hyperalgesia from chronic opioid use can be addressed with use of ketamine (evidence not all positive), NSAIDs, Gabapentin, Nitrous oxide (reduced CPSP)
- Epidural & perineural catheters
- Pre-emptive vs. preventive analgesia
    - Reduce chronic pain
    - Improve functional status
- Depression can cause and be caused by pain
- Pre-op depression causes increased incidence of CPSP
- Rx with antidepressants often effective

Practical Paediatric Pain Management – Jenny Thomas – Red Cross War Memorial Children's Hospital & University of Cape Town

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- Pain management at RCWMCH
    - Multidisciplinary
    - Anaesthesia-directed, nurse driven
    - Physio, OT
    - Creative therapies – volunteers (psychotherapy, aroma therapy, art, music)
    - Child life specialists
    - Weekly meeting
- What is needed?
    - All in the mind!
    - Believe in yourself: you can do this in your environment
    - Teamwork
    - Coach (you?)
    - Knowledge is power – learn and teach
    - Know the drugs available and use them judiciously
    - Balance confidence with humility
- In the beginning (20 years ago)
    - Morphine, NSAIDs, paracetamol
    - No assessment tools
    - Minimal use of LA regional techniques
    - Surgeons: "Sedate with panc"
    - Opioid phobia
    - "They [the children] will not remember"…and other misconceptions
- Where are we now?
    - Enlightened parents
    - Safety
    - Efficacy
    - Pathology
    - Improved techniques
    - Appropriate medications
    - Sedation/analgesia techniques outside of the OR
    - Audit: critical adverse events
    - Science-based evidence in paediatrics
    - Assess -> Solve -> Implement -> Measure
- If you can't talk to the patient, talk to the parent.
- Case reports & ideas presented
- Practical points:
    - Give drugs in Coca-cola (sugar & bubbles)
    - Rescue medications: Valoron (tilidine HCl) SL and/or ketamine
    - Perfalgan (IV paracetamol) prior to induction if the patient has an IV
    - Weaning of drugs

- Value of preparation (talking, explaining, child life specialists)
- Anxiety
- Role of mother/parents

Making a Difference – Robert Sneyd – Peninsula Medical School

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- Making a difference… for patients and their outcomes, for institutions and healthcare systems, for strategic leadership, political engagement, international and environmental stewardship.
- Good start: get as good as you can through study, CPD, research, etc.
- Leadership challenges:
  - Self-leadership – be open to the evidence
  - Challenge your colleagues to put it into evidence
- Bad stuff:
  - Are anaesthetics bad for you?
    - cumulative deep hypnotic time - current evidence inconclusive -> no reason to change practice now
    - Beware the "triple low"
    - Watch the literature
  - Can anaesthetics cause cancer?
    - Serum from patients receiving regional blocks inhibited cancer cells; morphine caused proliferation
    - Regional anaesthesia may suppress cancer!
  - Are we damaging babies' brains?
    - No difference in cerebral blood flow
    - Mice show inattentive behaviour after neonatal sevo exposure
    - Be aware that we may be damaging baby brains…
- Changing institutional behaviour changes institutional outcomes (think of ERAS)
- Examples: Hip Fracture Network and Emergency Laparotomy Network
- Evidence-based practice is not discretionary – it's a duty!
- Data=Knowledge=Power
- Political leadership: Engage! There is no "them" in society, there is only "us".
- Get involved in clinical leadership
- Anaesthetists are equipped with the ideal skills to lead
- Helsinki Declaration for Safety in Anaesthesia
- "Stick your head out and be a pain in the arse!"

The Disrptive Doctor – Sean Kaliski – Forensic Mental Health Services – University of Cape Town & Groote Schuur Hospital

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- Increasing awareness of bad behaviour; corresponding increase in ethical guidelines
- HPCSA – No supercession, no casting aspersions, reporting impairment.

- AMA 2010: “Inappropriate behaviour” = conduct that is unwarranted and is reasonably interpreted to be demeaning or offensive.
- Sexual harassment; racial/ethnic slurs; intimidation; abusive language; aggressive; persistent lateness; etc.
- Staff leave, and patient care quality decreases.
- Loss of professionalism in the profession.
- Not a lot of data exist
- 3-5% of medical personnel display a pattern of disruptive behaviour
- 75% are in the surgical disciplines
- Difficult to differentiate from justified behaviour
    - Difficult circumstances
    - Justified complaints
- 2 types:
    - “Impaired schmucks”– drugs, alcohol, psychiatric disorders, poor levels of competence. Generally reported/disciplined for incompetence or bad outcomes.
    - “Competent bastards” – Often excellent technicians, but horrible persons.
        - The Old Guard – prominent member of medical fraternity, but has hair trigger and known “issues”
        - The Trauma Drama – young, energetic, excellent… but fly out of proportion
- All doctors are narcissists (inflated sense of self-importance)… but those who are more narcissistic than you are a problem
- Prevention -> Code of conduct -> Create organisational ethos
- Treatment -> Reports committee -> Investigate -> Meet with doctor -> advise treatment -> Impose sanctions if required -> Legal action if necessary.

EBM – Pro Con Debate – Dean Gopalan (Pro) & David Muckart (Con) (Both UKZN)

Pro:

- EBM stands accused of misleading the medical worlds
- EBM is the integration of best research evidence, clinical expertise and patient values.
- EBM is for everyone – doctors, patients, health authorities, funders, and societal/regulatory bodies.
- Evidence in its broadest sense is a currency by which one fulfils the burden of truth
- All evidence below critically appraised articles is unfiltered
- What is your “personal P value”?
- “Doubt is not a pleasant condition, but certainty is absurd.” (Voltaire)
- “More important than the quest for certainty, is the quest for clarity.” (Gautier)

Con:

- Phenomenal bias in medical publications
    - Positive results bias – positive trials 3x more likely to be published
    - Obfuscation – detrimental results deliberately supressed

    - Funding bias – 5x more likely to support a drug funded by for-profit organisations
    - Guidelines/consensus frequently supported by industry
    - Academic bias – 60% of medical school chairs receive departmental or personal income from industry
    - Ghost and guest authorship
- Statistical (In)Significance
    - p=0.05 means a 1:20 error, or 5% chance of error.
    - Would we accept 5% failure in the aviation industry?
    - Mathematical significance does not imply clinical significance
- NNT vs. NNH is possibly the only relevant clinical comparison
- Meta-analysis minimises random errors, but does nothing for and all forms of bias
- Ahmed et al BMJ 2012: 29% of metal-analyses did not use unpublished data; 52% did not obtain individual data; 30% reviewer selection bias was a problem.
- "The good physician treats the disease; the great physician treats the patient." (Osler)

The End ☺