Foreign Exchange: The Best of Both Worlds in Perioperative Care

Darion Pearson

Busy afternoon on the surgical war

I-r
Dr. Tabon Luponi, Nurse Josephine Abur
GULU DISTRICT, UGANDA
• Gulu is located in the central part of the Northern Region of Uganda
• Population is approximately 375,000 (2010)
  • 225,000 rural, 150,000 urban
Surgical and Perioperative Care in Uganda

- Up to 11% of global disease burden could be treated by surgery (World Surgical Association)
  - Orthopedic Injury
  - Obstetric
  - Abdominal disease processes amenable to surgery
    - Hemia, appendicitis
- Africa has the highest ratio of surgical disability adjusted life years per 1,000 people
- Perioperative care is highly impacted by the general shortage of surgical and anesthesia professionals in Uganda
  - 40 Physician Anesthesiologists in Uganda - Population of 36 million
SURGICAL AND PERIOPERATIVE CARE IN GULU

- Majority of anesthesia professionals in Gulu are Anesthetic Officers
  - 2 Physician-Anesthesiologists in Gulu
  - Approximately 15 Anesthetic Officers
- Most common cases are peri- or sub-umbilical
- Perioperative care consists of wound care, associated infection and pain management
- Due to the nature of the cases and limitations in resources, most procedures are completed with neuraxial or regional anesthesia instead of general
BENEFITS AND RATIONALE OF LOCAL PRACTICES: HERE, SPINAL ANESTHESIA RULES!

- Financial and Logistical Efficiency
  - Inhaled anesthetics are expensive
    - Along with oxygen tanks, must be obtained from the capital city of Kampala (210 miles and a minimum of 5 hours away by road)
  - General anesthesia and endotracheal intubation requires utilization of costly medical supplies and closer monitoring
  - Reduction of post-operative complications/complaints with spinal anesthesia compared to general allows decreased utilization of post-operative nursing and provider care

- Medical advantage for the patient
  - ↓ post-operative confusion, nausea/vomiting, convulsion
  - ↓ post-operative pain (particularly in orthopedic cases)
FOREIGN EXCHANGE: LEARNING FROM UGANDA

l-r Dr. Davidson Oceng - Anesthesiologist, David Odongo - Sr. Anesthetic Officer, Camille Maku - Nurse
FOREIGN EXCHANGE: LEARNING FROM UGANDA

- Total number of Inpatient procedures performed: 51.4 million (2010, CDC)

- Number of selected procedures performed:
  - Arteriography and angiocardiology using contrast material: 2.4 million
  - Cardiac catheterizations: 1.0 million
  - Endoscopy of small intestine with or without biopsy: 1.1 million
  - Endoscopy of large intestine with or without biopsy: 499,000
  - Diagnostic ultrasound: 1.1 million
  - Balloon angioplasty of coronary artery or coronary atherectomy: 500,000
  - Hysterectomy: 498,000
  - Insertion of coronary artery stent: 454,00
  - Coronary artery bypass graft: 395,000
  - Total knee replacement: 719,000
  - Total hip replacement: 332,000
  - Cesarean section: 1.3 million
  - Reduction of fracture: 671,000
NECESSITY VS ADVANTAGE

• Anesthesia providers in Uganda have utilized neuraxial anesthesia due to limitations in personnel and resources
• In the US, cost of regional and general anesthesia is similar
• Research in the United States is demonstrating improved outcomes in the use of neuraxial anesthesia, particularly in orthopedic cases
  • ↓ Risk in post-op deep vein thrombosis
  • ↓ Post-operative delirium
  • ↓ Pulmonary compromise
  • ↓ Intraoperative blood loss and need for transfusions
  • ↓ Length of stay and healthcare costs
• Trend is toward increased use of regional anesthesia in the US as high-risk and elderly population increases
  • Research, education, adjustment in surgical culture
FOREIGN EXCHANGE:
LEARNING FROM THE US
PERIOPERATIVE AND PERIPROCEDURAL PAIN MANAGEMENT

- Pain management in the developing world is virtually non-existent
  - “...non-treatment becomes the norm”
  - High cost of opioid analgesics
  - Under-utilization of NSAIDS
  - Low priority of pain control
  - Insufficient education of nursing staff

- Severity of pain may actually be higher in these settings due to delay of care, progression of disease/injury
PERIOPERATIVE AND PERI-PROCEDURAL PAIN MANAGEMENT

- Increase pain management awareness in nursing and physician staff
- Implement pain assessment scales
- Increase use of more readily available medications such as ibuprofen, paracetamol, diclofenac
  - Relatively inexpensive and may be purchased by family prior to procedure
- Careful planning of ward procedures with proper pre-treatment for dressing changes
  - Prioritize patients with most severe pain
  - Timing administration of PO pain medication with procedure
EXCEPTIONAL CLINICAL EXPERIENCE

A+

• Generally impressed with the vast medical knowledge of attending and resident physicians, clinical officers, and medical students.

• Most memorable experience:
  • Dressing change on a severely gangrenous lower extremity
  • Muscle and tendons exposed
  • Blood vessels too palpable for comfort

Afternoon pediatrics lecture
MEMORIES FOR A LIFETIME...
AND MORE TO COME

Learning from and getting to know my medical school colleagues with the most significant cultural experience for me.

Classmates l-r
Nancy, Bosco, Lucy, Judith, Zakia

Surgical laundry
REFERENCES

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