Quick Pimps: Causes of Postoperative Fever

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DidacticsOnline

- **1-2: Wind**
  - Pneumonia or pulmonary embolism
  - NOT atelectasis
- **3-5: Water**
  - UTI
- **5: Walking**
  - DVT and PE
- **7: Wound**
  - Wound infection
    - Necrotizing wound infections will cause fever earlier.
- >7: What we did
  - Iatrogenic causes (line infections, drug fever)
- 10: Wonder where?
  - Deep Abcess

Benign, Self-limited Fever

- Any time tissue is disturbed, as it is in surgery, cytokines are released.
    - IL-1, **IL-6**, TNF-alpha and Interferon-gamma

- More tissue disturbed → higher fever

Infectious Causes

- 80% of patients with fever on postop day 1 have no infection.

- 90% of patients with fever after postop day 5 have infection.

- The most common infectious causes of post op fever are pneumonia, UTI, SSI and IV associated infection.

Noninfectious Causes

ICE DVT

- **I**nflammation
  - Physiologic
  - Hematoma
  - Seroma
- **C**ancer
  - Neoplastic Fever
  - Malignant Hyperthermia (not really cancer)
- **E**ndocrine
  - Thyroid storm
  - Hypoadrenalism
- **D**rugs
  - Drug fever
  - Drug/alcohol withdrawal
  - Transfusion Reaction
- **V**ascular
  - Ischemia or infarction to brain, bowel or heart
- **T**hrombosis
  - DVT
  - PE

NOT atelectasis...

- Atelectasis is almost inevitable to some degree after thoracic or abdominal surgery.
  - Due to decrease expiratory force associated with abdominal pain and sedation, delivery of oxygen at high flow and high FiO2 during anesthesia as well as other factors beyond the scope of this presentation.
- Some studies show atelectasis present in over 90% of patients undergoing general anesthesia.
- With postop atelectasis being almost universal it is understandable that most patients with postop fever will also have postop atelectasis.
  - Concurrence is coincidental and not causal.
- Of patients with atelectasis on post op day 1, only about 25% had fever
- 50 years ago an animal model of atelectasis produced by ligation of mainstem bronchi was not accompanied by any fever.