Rural Medicine: Jack and the Ear Bean

Vanessa Cardy and Mel Herbert

Case: An approximately 8-year-old boy presents with his father with complaints of a bean stuck in his ear. Father noted that the child didn't seem to be hearing very well. The child had placed the bean in the ear the day before. On exam, bean noted in ear canal, wedged in tight, no room to get around bean. It was at least a 10 hour drive to see ENT and the father is terrified of flying.

- Management
  - First, dental suction can be attempted. It is more precise than wall suction.
  - If this fails, attempt to flush it out with irrigation.
  - If this is unsuccessful, can trial use of skin adhesive on a Q-tip in order to drag it out.

Case continued: The physician had to leave the patient for 30 minutes. On returning found that the bean had absorbed the water and expanded, the canal was red, but the patient was in no distress. The physician called ENT and they suggested using skin adhesive on a Q-tip to try and drag it out. This failed and the Q-tip could not be removed! For transport, they took a coccyx pillow and looped it around the ear so the child could sleep without pushing the Q-tip farther into the ear. The Q-tip and bean were removed under sedation by ENT the following day without complications.

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- Take-home: Beware organic material in the ear. Also be cautious when considering adding water as things might swell.

Related content:
CorePendium chapter - Noninfectious Ear Emergencies: https://www.emrap.org/corependium/chapter/recTrjaK95UD5JpNU/Noninfectious-Ear-Emergencies

CrunchTime ENT - Ear Foreign Body: https://www.emrap.org/episode/ent/earforeignbody

Pharmacology Corner: Potassium Binders

Sean Hayes and Gita Pensa

- After treating hyperkalemia with membrane stabilization (calcium salts) and cellular shifting (insulin, beta-agonists, bicarbonate) we are often requested by our inpatient colleagues or renal to administer potassium binders.
- Sodium polystyrene (Kayexalate)

- Originally approved by the FDA prior to ruling that drugs had to be proved to be effective before going into use.
- Original studies for kayexalate from 1961 were case series with poor methodology demonstrating small change in potassium over days.
- **There are no high-quality studies showing effectiveness of sodium polystyrene.**
- **Serious adverse effects: colonic necrosis, hypernatremia.**

- Newer potassium binders
  - Patiromer (Veltassa)
    - Exchanges calcium for potassium in the GI tract.
    - It passes through the GI tract without absorption eliminating potassium from the body.
    - An emergency department study showed a 0.6 mEq decline in potassium at 2 hours. There was no difference found at 6 hours post-administration.
  - Zirconium cyclosillicate (Lokelma)
    - Exchanges hydrogen for potassium in the GI tract.
    - It passes through the GI tract without absorption eliminating potassium from the body.
    - There was no significant change in life-threatening hyperkalemia. The drug manufacturer does not recommend use in this clinical scenario.
  - Neither agent plays a role in acute management but can be useful in the continued care. Neither agent should be used in lieu of dialysis.
- Drugs that increase potassium release from cells.
  - Digoxin poisoning
  - Succinylcholine
  - Aminocaproic acid
  - Cyclosporine
  - Tacrolimus
- Drugs that decrease renal elimination of potassium
  - Potassium sparing diuretics: spironolactone, amiloride
  - Reduce aldosterone secretion: ACEI, NSAIDs
  - Trimethoprim: blocks collecting tubule sodium channel

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- Caution must be taken in combining these medications as they can cause life-threatening hyperkalemia.

Related content:
CorePendium chapter - Hyperkalemia: https://www.emrap.org/corependium/chapter/recEcOnShorJunqD5/Hyperkalemia

EMRAP 2017 July Kayexalate Myths https://www.emrap.org/episode/july2013/kayexalatemyths

References:
Flinn RB, Merrill JP, Welzant WR. Treatment of the oliguric patient with a new sodium-exchange resin and sorbitol; a preliminary report. N Engl J Med. 1961;264:111

Scherr L, Ogden DA, Mead AW, Spritz N, Rubin AL. Management of hyperkalemia with a cation-exchange resin. N Engl J Med. 1961;264:115.

Rafique Z et al. Patiromer for Treatment of Hyperkalemia in the Emergency Department: A Pilot Study. Acad Emerg Med 2020: 1: 54-60.

EMA Ultra Ultra February

Mel Herbert

- Abstract 2: Intravenous Alteplase before Endovascular Treatment for Stroke
- Abstract 3: PECARN for Minor Head Trauma: Risk Stratification Estimates
- Abstract 4: Bloody Diarrhea and Shiga Toxin-Producing Escherichia Coli HUS
- Abstract 6: Ultrasound vs Landmark-Guided Medium-Sized Joint Arthrocentesis
- Abstract 7: The Erector Spinae Plane Block for ED Patients with Rib Fractures
- Abstract 8: Antibiotics in Septic Olecranon Bursitis without Bursal Aspiration
- Abstract 9: Dexamethasone vs Prednisone in Children Hospitalized for Asthma

Mailbag

Jan Shoenberger, Anand Swaminathan, and Sean Nordt

- Listener Question: Would you all be able to do a short ID or pharm talk on Avycaz (ceftaz/avibactim)? I recently had a renal transplant patient with MDR klebsiella UTIs who I gave vanc/meropenem to and the transplant team came down and requested Avycaz and I have no idea what it was, uses, benefits, etc.
- Ceftazidime/Avibactam (Avycaz)
    - Useful in treating multidrug resistant (MDR) gram negative bacteria.
    - Less toxic than aminoglycosides or polymyxin B.
    - Other antibiotics with similar bacterial coverage