LIFE-THREATENING, INTRAOPERATIVE HEMODYNAMIC INSTABILITY IN A QUADRAPLEGIC

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Background
- 57 year old quadriplegic male, remote C4-C5 spinal injury presenting for cystoscopy.
- PMHx: Autonomic dysreflexia, OSA, neurogenic bowel/bladder.
- Allergies: Sulfa drugs
- Prior history of systolic blood pressure (SBP) near or above 200 mmHg while under GA for cystoscopy on multiple occasions.
- Required nitroglycerine infusions.
- Stable blood pressure with spinal anesthesia on one prior occasion.

Case Description
- L4-L5 spinal performed in OR
  - Intravenous midazolam (2mg) & fentanyl (50 mcg)
  - Intrathecal hyperbaric bupivacaine (12.5 mg)
  - Intravenous cefazolin (2g)
- On return to supine position:
  - SBP rapidly decreased from baseline of 140 mmHg to 60 mmHg.
  - The patient became tachycardic.
  - Breathing pattern became shallow and bradypneic.
  - Level of responsiveness quickly decreased.
Case Description

- Vasopressin and epinephrine boluses given.
- Trachea intubated. Intra-arterial BP monitoring & central venous access established.
  - Vasopressin & epinephrine infusions started.
- Diffuse blanching erythema noted.
  - No mucosal edema or wheezing.

Procedure cancelled.
- Transported to medical ICU.
- Weaned off vasopressors & extubated in 3 hours.
- Serum tryptase 125 mcg/L (reference range 0.4 – 10.9).

Skin testing to bupivacaine:
- No cutaneous, gastrointestinal, cardiovascular or respiratory symptoms.
- No evidence of IgE-mediated hypersensitivity to bupivacaine.

Discussion

- Initial working diagnosis was a high or total spinal.
- Tachycardia, skin changes and markedly elevated tryptase most consistent with anaphylactic reaction.
  - Cephalosporin challenge now pending.
Discussion

- Elevated tryptase:
  - An effective marker of recent mast cell degranulation. (Laroché, D. et al. (1991) Anesthesiology 75: 945-949)
  - Correlation with subsequent positive skin testing. (Faher, M et al. (1998) Br J Anaesthesia 80: 26-29)

- Anaphylaxis can be an exceedingly difficult intraoperative diagnosis to make.