Compensatory review addressing acute ischemic strokes and Bell's palsy

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Compensatory Review Addressing Acute Ischemic Strokes and Bell’s Palsy

**Purpose**

- To review the clinical diagnostic procedure for facial weakness.
- To evaluate the physiological perspective of Acute Ischemic Strokes and Bell’s Palsy.
- To assess possible consequences of Tissue Plasminogen Activator (tPA) treatment, and the ramification tPA has on Bell’s Palsy.

**Background**

- Acute Ischemic Stroke: Large reduction in blood flow to the brain stemming from a blocked or constricted artery.
- Bell’s Palsy: Sudden weakness in facial muscles resulting in facial droop. The exact etiology is unknown and under debate.
- Facial Nerve: The seventh cranial nerve. Innervates the whole face from the chin to the forehead.
- tPA: Effective drug for breaking up clots.
- Prednisone: Corticosteroid that reduces inflammation.

**Case Report**

- Case History
  - A fifty-six year old, Caucasian male was admitted to the Emergency Room
  - Chief complaint was cough
  - No other pertinent history
- Clinical Examination
  - Physical examination
    - Heart and Lung Sounds
    - Tenderness of neck, back and belly
  - Noticed facial droop
    - Examined facial expressions
    - Evaluated bilateral strength in face, shoulders, arms and legs
  - Computerized Tomography (CT) scan
  - Diagnosis
    - The combination of facial droop, unilateral facial weakness and a negative CT scan indicate Bell’s Palsy
    - Bell’s Palsy of the left seventh cranial nerve was diagnosed
  - Treatment
    - Administered corticosteroid (prednisone) and eye drops (saline)
    - Patient was informed of recovery process and prognosis

**Discussion**

- Acute Ischemic Strokes and Bell’s Palsy can result in unilateral facial weakness.
- Acute Ischemic Strokes is associated with headaches and migraines while Bell’s Palsy is not.
- Physical examinations will differ between the two neuropathies. Acute Ischemic Strokes will affect limbs and areas beside the face.
- A positive CT scan for Acute Ischemic Strokes will yield an occluded artery.
- The major difference between these neuropathies stems from the apparent etiologies.
- Corticosteroids act as anti-inflammatories that will shrink the swollen seventh cranial nerve.
- Eye drops are essential to protect the eye.
- tPA follows a mechanism that breaks up clots in the occluded artery, but tPA has severe consequences.
- Misdiagnoses of Bell’s Palsy in Emergency Departments occur, but are rare.
- Most common misdiagnosis for Bell’s Palsy is Acute Ischemic Stroke.

**Conclusion**

- This patient was correctly examined, diagnosed and treated.
- Acute Ischemic Strokes and Bell’s Palsy can present in a similar manner.
- Physicians need to understand the physiology behind facial weakness.
- tPA may lead to negative side affects for stroke patients as well as misdiagnosed stroke patients.

**References**

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