Compensatory review addressing acute ischemic strokes and Bell's palsy

Patrick R. Godfrey
College of Saint Benedict/Saint John's University

Follow this and additional works at: http://digitalcommons.csbsju.edu/elce_cscday

Part of the Biology Commons, and the Physiology Commons

Recommended Citation
http://digitalcommons.csbsju.edu/elce_cscday/46

This Poster is brought to you for free and open access by DigitalCommons@CSB/SJU. It has been accepted for inclusion in Celebrating Scholarship & Creativity Day by an authorized administrator of DigitalCommons@CSB/SJU. For more information, please contact digitalcommons@csbsju.edu.
Compensatory Review Addressing Acute Ischemic Strokes and Bell’s Palsy

Patrick R Godfrey
Department of Exercise Science and Sports Studies and Department of Natural Science
College of Saint Benedict/Saint John’s University, Collegeville, MN

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

Acknowledgments

I would like to thank Saint Cloud Hospital, Centracare Health, College of Saint Benedict’s, Saint John’s University, Dr. Mani Campos and Dr. Steve Jameson for providing this excellent opportunity.