**Recognition and Management of Adverse Effects in the Treatment of Giant Cell Arteritis in Older Adult Populations**

Cenk Atillasoy³, Dr. Changgi Jung²

Drexel University College of Medicine; Division of Geriatric Medicine, Primary Care Institute, Allegheny Health Network

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**Background**

Giant Cell Arteritis (GCA):
- Inflammation of blood vessels that can rapidly lead to blindness if left untreated
- More common in older populations
- Symptoms: headache, jaw pain, vision loss, fever, fatigue
- First Line Therapy: High-dose systemic glucocorticoids (HDSGs)

**Adverse Events (AEs) and Psychiatric Disorders (PDs) Associated with HDSGs:**
- Delirium
- Cognitive Changes
- Dementia
- Depression
- Anxiety
- Side effects more common and pronounced in older patients.

**Relevance:**
- Limited research describes both 1) the acute and lasting debilitating psychiatric side effects and 2) the significant impairment in ADLs and IADLs associated with HDSG treatment of GCA.
- Case report documents an older patient's experience and outcomes associated with use of HDSGs to treat GCA and highlights the need for further research to identify and minimize their impact on patients' physical and cognitive function.

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**Case Description**

**86-year-old female**
- **HPO:**
  - Coronary Artery Disease / Hypertension / Hypothyroidism / Macular Degeneration
  - Hearing Loss / Cervical Spondylosis without Myelopathy

**Surgical & Family History:**
- None

**Social History:**
- Retired elementary school teacher / Lives with daughter at home
- No drinking or smoking history

**Prior to Initial GCA Hospitalization:**
- Functionally independent and able to perform ADLs and IADLs
- Sit to stand transfers with supervision
- Ambulates 50% with cane supervised
- Home PT
- No history of falls
- No reported memory problems

**ROS (After fall):**
- Positive for fatigue, headaches, memory loss, anxiety, and disorientation.
- ROS otherwise normal.

**Medication List (After fall):**
- Atenolol 50 mg 1/d PO
- Prednisone 10 mg BID PO
- Alendronate 70 mg 1/w PO
- Levothyroxine 88 mcg 1/d PO

**To be addressed post-fall:**
- Patient started having neck and shoulder pain
- Developed double vision
- Discharged with high-dose glucocorticoid taper (HDGCT)
- Discharged with steroid taper (Started Prednisone 20 mg daily) and Tocilizumab monthly since ESR was elevated

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**Intervention & Timeline**

**Necropsy:**
- Patient has GCA
- Autopsy with H&E, IHC, tissue cultures

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**Discussion**

GCA is a serious inflammatory condition that more commonly develops in older populations. Immediate treatment with HDSGs is required to prevent permanent vision loss. HDSGs are associated with significant AEs and PDs, especially in older patients.

**Management of AEs and PDs Associated with HDSGs:**
- Careful Dose Reduction or Tapering of Cessation of glucocorticoids
- Consider alternative non-steroid therapies to manage GCA inflammation
- If steroids cannot be reduced or eliminated, the standard of care (SOC) involves symptom management

**Case Findings:**
- Significant decline in patient's cognitive and functional statuses post-HDSG
- Inability to perform most ADLs and IADLs
- Steroids continued at decreased dosage
- Patient became confused, tried to move and fell
- Family addressed concern for worsening confusion and disorientation at Home PT

**Clinical Implications and Future Directions:**
- There is a gap in research describing the sudden and significant cognitive and functional status declines associated with treatment of GCA with HDSGs
- Considering the increased incidence and severity of adverse events associated with glucocorticoid use in older populations, healthcare providers must be vigilant in their monitoring efforts for patients being treated for GCA
- When AEs and PDs are documented and corrected earlier, patients may be more likely to recover to their baseline functional statuses with less physical and cognitive impairment

**Further research is needed to:**
- Determine types and incidence of AEs & PDs encountered during HDSG treatment of GCA
- Elucidate types and strength of risk factors in developing HDSG-related AEs & PDs
- Evaluate the need and place for alternative GCA treatment regimens

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For Dr. Jung:
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**References**


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**Supplementary Information**

- **Coronary Artery Disease / Hypertension / Hypothyroidism / Macular Degeneration research**
- **Inability to perform most ADLs and IADLs post-hearing loss / cervical spondylosis without myelopathy**
- **Significant decline in patient's cognitive and functional statuses post-glucocorticoid use**
- **If steroids cannot be reduced or eliminated, the standard of care (SOC) involves symptom management**
- **Careful dose reduction or tapering of glucocorticoids**
- **There is a gap in research describing the sudden and significant cognitive and functional status declines associated with treatment of GCA with HDSGs**
- **Considering the increased incidence and severity of adverse events associated with glucocorticoid use in older populations, healthcare providers must be vigilant in their monitoring efforts for patients being treated for GCA**
- **When AEs and PDs are documented and corrected earlier, patients may be more likely to recover to their baseline functional statuses with less physical and cognitive impairment**
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  - Evaluate the need and place for alternative GCA treatment regimens

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