

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

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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: headaches, jaw pain, vision loss, fever, fatigue
- First Line Therapy: High-dose systemic glucocorticoids (HDSG)

### Adverse Events (AEs) and Psychiatric Disorders (PDs) Associated with HDSGs:

- |                    |                    |
|--------------------|--------------------|
| -Delirium          | -Cognitive Changes |
| -Dementia          | -Depression        |
| -Mania & Psychosis | -Anxiety           |

- Side effects more common and pronounced in older patients.
- Effects may persist longer in these populations, even after cessation of medication.
- These AEs and PDs may cause significant negative lingering effects in patient's lives.
- These effects are often reversible, though they may be irreversible in some cases.
- The greatest risk factor for developing AEs or PDs associated with HDSG use is increased doses of glucocorticoids.

### Relevance:

- There is limited research describing both 1) the acute and lasting debilitating psychiatric side effects and 2) the significant impairment in ADLs & IADLs associated with HDSG treatment of GCA.
- This case report documents an older patient's experience and outcomes associated with use of HDSGs to treat GCA and provides support for non-steroid alternatives to be considered in the treatment of GCA complicated by significant AEs.

## Purpose

To discuss adverse drug events associated with high-dose systemic glucocorticoid treatment of GCA, learn how to identify them early, and minimize their impact on patients' physical and cognitive function.

## Case Description

86-year-old female

### PMH:

- 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 150 ft with cane supervised
  - Home PT
  - No history of falls
- Cognitive Status
  - MOCA 29/30 in 2016
  - No reported memory problems

### ROS (After fall):

- Positive for fatigue, headaches, memory loss, anxiety, and disorientation.
- ROS otherwise normal.

### Medication List (After fall):

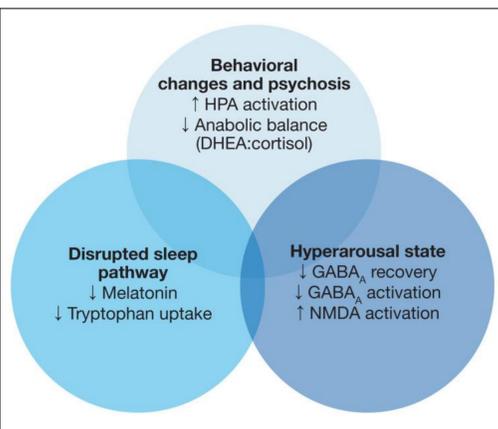
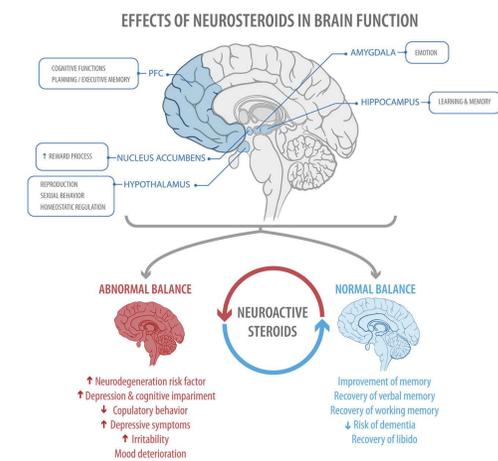
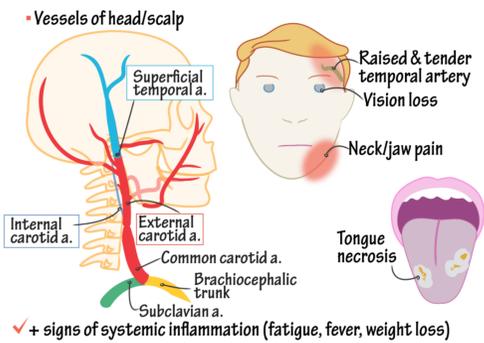
Alendronate 70 mg 1/w PO      Atenolol 50 mg 1/d PO  
Levothyroxine 88 mcg 1/d PO      Multivitamin 1 cap/d PO  
Prednisone 10 mg BID PO

### In the ED (After fall):

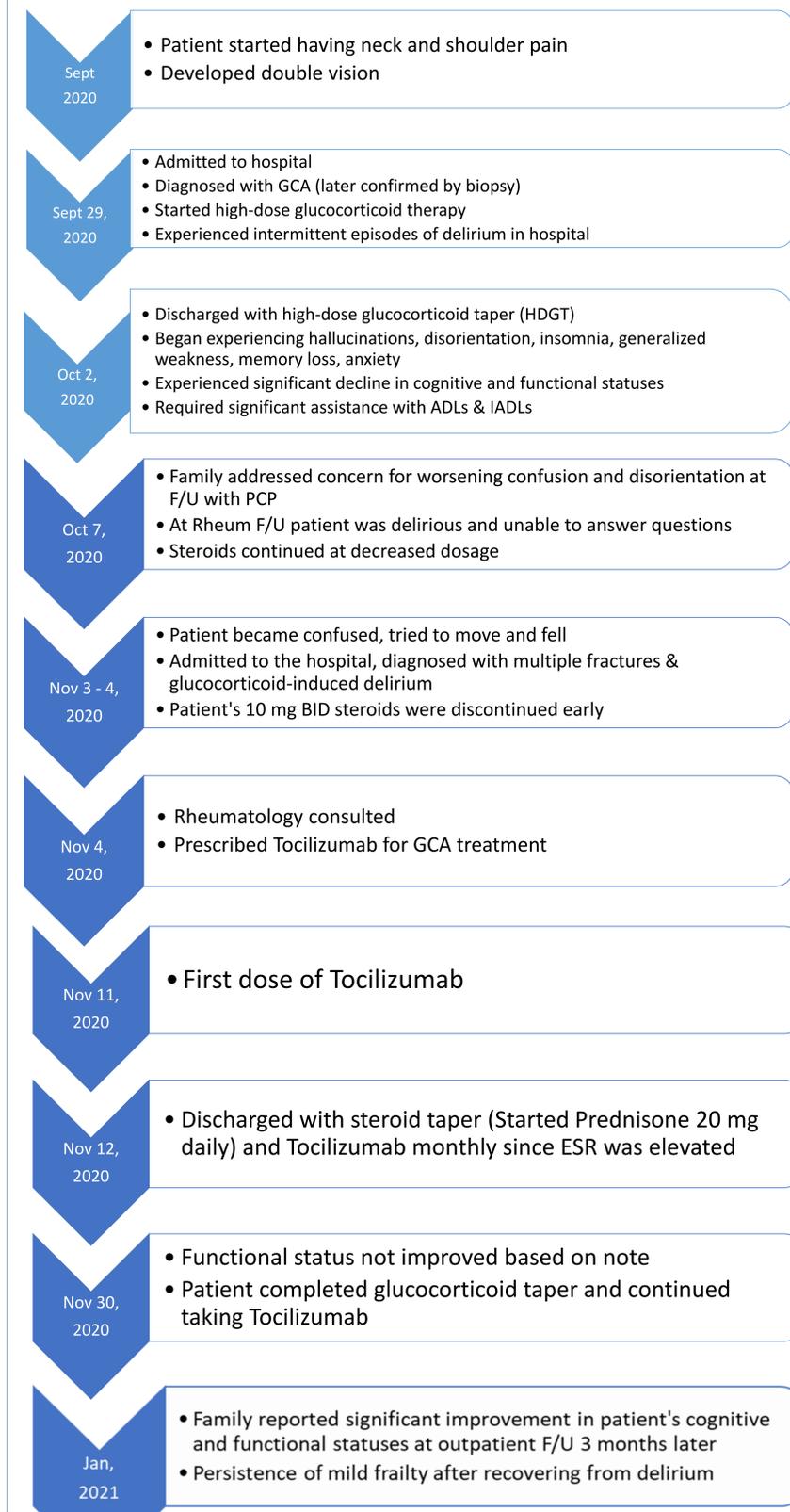
- Diagnosed with multiple fractures (Nasal / Maxillofacial / Maxillary Bones)
- No signs of infection or intoxication (WBC 10.6 / UA Negative for Pyuria / Negative Ethanol and Comprehensive Drug Testing)
- Abdominal CT: Gastric ulcer with no perforation, otherwise unremarkable
- CT Head & Brain MRI: No acute intracranial process but showed moderate to advanced small vessel ischemic disease

### Physical Exam (1 day after fall admission):

Vital Signs: Normotensive, afebrile, normal BP and RR  
Exam: Bilateral periorbital bruises, laceration on face, mild weakness in left leg, alert but not oriented to time, confused. Exam otherwise normal.



## Intervention & Timeline



## 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 **or** 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 post-HDSG
- Improvement in cognitive and functional statuses after Rx adjustment
- Significant improvement in ability to perform ADLs after Rx adjustment
- Modest improvement in ability to perform IADLs after Rx adjustment
- Lasting effects: Frailty

### 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
  - Elicit 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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