Chemobrain, Steroid Rage and Other Ways Transplant Meds Affect Your Brain

Celebrating a Second Chance at Life Survivorship Symposium

April 29 – May 5, 2023

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Learning Objectives:

At the conclusion of the workshop, attendees should have a clear understanding of the following:

1. Medications that can contribute to “chemo brain” after HCT.
2. What steroid rage is, how often it happens and whether it can be prevented.
3. Whom to contact for help if a patient is experiencing steroid rage.
4. How steroid rage is treated.
5. The impact of other transplant medications on the brain
What is “chemo brain?”

- Patients taking chemotherapy feel
  - Less focused
  - Longer time thinking of what they want to say
  - Short-term memory problems
  - Usually mostly feeling delayed

- NOT
  - Personality changes
  - Outright confusion

- Symptoms may start weeks or months after chemotherapy, but do not continue to get worse over time – in fact, some people improve years later

Is chemo brain real?

YES

- Everything you experience is real!
- The medical term is chemotherapy-related cognitive impairment (CRCI)
- There are specific biological explanations for CRCI
  - Damage to neurons
  - Damage to the hippocampus, where memory is stored
  - Extra inflamed cells in the brain
- You can see CRCI on fMRI, a type of imaging that looks at how much blood flow is going to individual parts of the brain
Which medications cause chemo brain?

• Any type of chemotherapy can contribute
  • Methotrexate #1 known cause for transplant patients
• Intrathecal (spine injected) chemotherapy more likely to contribute
• Irradiation (not a chemotherapy) also contributes to cognitive change and is often given with chemotherapy

What is the treatment for chemo brain?

• Cognitive Retraining Therapy –
  • Specific exercises, not just to practice
  • Finding ways to rely on what your brain is already doing well
  • Providers include psychologists, psychiatrists, physical therapists/occupation therapists, or as part of “CRT” centers
• Studies are ongoing!
What is the treatment for chemo brain?

• Namenda is being studied for protection
  • Early studies are promising
  • Has shown some protection for irradiation
• Thiamine is being studied for protection


How do steroids affect the brain?

• Common
  • Euphoria
  • Hypomania
  • Agitation
  • Anxiety
  • Insomnia
  • Distractibility
  • Fear
  • Indifference
  • Irritability

• Less common
  • Lethargy
  • Lability
  • Restlessness
  • Tearfulness
  • Cognition changes
    • Verbal memory

28% mild to moderate reactions
6% severe

When steroids are stopped or significantly reduced...

- Depression
- Fatigue
- Lethargy
- Malaise
- Anxiety
- Mania
- Delirium

Known to be common, but frequency is unknown

Timeline...

- Any time!
  - Immediately (39% first week)
  - Shortly (62% within 2 weeks)
  - Delayed (83% within 6 weeks)
- Symptoms last up to 2 months after discontinuation

References:
What should I do?

• Expect feeling a little bit emotional
• Ask visitors to leave, sit quietly with a close trusted person
• Tell your transplant or primary doctor immediately if
  • Feeling too excited
  • Feeling distressed
  • Any thoughts of suicide
  • Any “weird” thoughts that don’t make sense or are unlike you
    • Starting not to trust loved ones, feeling someone is watching you
    • Hallucinations (things others cannot see or hear)

What should I do?

• Your doctor may not be able to take you off steroids, but
  • Schedule can be changed
  • Other medications can help, like Zyprexa, which also improves appetite in cancer patients
  • May require inpatient observation
  • Can advise you about reducing risk, helping calm your environment and thoughts
What other common transplant medications may affect my brain function?

• Antibiotics etc
  • Voriconazole – hallucinations
  • Posaconazole - confusion
  • Cipro – excitation, insomnia, dizziness
  • Cefepime – delirium
  • Clarithromycin – delirium
  • Bactrim – delirium, anxiety, depression, insomnia
  • Valtrex – delirium, depression

What other common transplant medications may affect my brain function?

• Medications for nausea **often cause sedation**
  • Ativan, Zyprexa, remeron, compazine
• **Opiate pain medications often** cause sedation, sometimes confusion
• **Keppra**, for seizure prophylaxis, causes anxiety, depression, personality changes
What other common transplant medications may affect my brain function?

- Campath – insomnia
- Cellcept – insomnia
- Busulfan – anxiety, insomnia, depression
- Carmustine – delirium
- Cyclophosphamide – delirium
- Cytarabine – delirium
- Etoposide – delirium
- Fludarabine – delirium, depression, agitation
- Thiotepa – delirium, depression, psychosis

What do I do with all this information!?

- Knowing what to expect helps people feel calm even when having mental side effects
- For caregivers, knowing to be on the alert to inform the medical team immediately
- Potentially consider Namenda, thiamine, for protection
- Make sure your oncologist knows if you have any psychiatric risk factors!
QUESTIONS?

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