Stem Cell Transplant Challenges During COVID-19

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OVERVIEW

Will discuss:

Acute and Chronic GVHD

Cognitive Impairment after SCT

Navigating Care during COVID
ACUTE GVHD BACKGROUND

Occurs in up 25-30% of Related and 45-50% Unrelated Stem Cell Transplants

Target organs Skin, GI Tract, Liver

Due to HLA-disparity

Important cause of early mortality Post transplant and has a major impact on quality of life and long term Immunosuppression
SIGNS OF ACUTE GVHD

**Skin**
- Can develop a very faint to severe sunburn like rash
- Blisters

**Liver**
- Skin or Eyes look yellow
- Stomach pain or RUQ
- Dark tea colored urine

**Stomach/Intestines**
- Nausea That Doesn’t go away
- Loss of appetite
- Vomiting (throwing up)
- Feeling full after eating very little

- Diarrhea Belly pain that doesn’t go away
- Feeling bloated
- Blood in the stool
Corticosteroids are the mainstay of treatment along with local treatments for the Skin, GI Tract, Mouth and Eyes

Response to treatment is the most important factor to determine
Tapering of steroids and immunosuppression

Risk of development of GVHD is based on the donor and conditioning

Multiple additional therapies to consider: Jakafi, ECP, Clinical Trials
MANAGEMENT OF ACUTE GVHD

Goal is to taper immunosuppression and prevent relapse of GVHD

Have to be patient with relapses and the time frame to get off steroids

Tolerance will develop over a long period of time: It will get better

Overlap syndrome may develop with manifestations of CGHVD
Figure 1: Diagnosis of graft-versus-host disease according to National Institutes of Health consensus criteria

Clinical sign(s) compatible with GVHD

Chronic GVHD
- Skin (lichenoid, sclerotic ...)
- Mouth
- Nails and hair
- Eyes
- Lung
- Musculoskeletal
- Hematopoietic
- Gastro-intestinal (esophageal)
- Liver
- Other

Any sign of acute GVHD?
- No = Classical chronic GvHD
- Yes = Overlap syndrome

Acute GVHD
- Skin
- Gastro-intestinal
- Liver

Subsequent episode
- Recurrent Persistent
- New Onset or late acute

1st episode classical

GVHD = graft-versus-host disease. Data in this figure was sourced from Socie et al.¹
CHRONIC GVHD

Acute GVHD: rash, GI and liver involvement

- Alloreactivity
- Autoimmunity
- Immunodeficiency

Classic acute

Late-onset acute

Overlap syndrome

Day 0  50  100  180  1a  2a  3a  5a

Chronic GVHD: skin, eye, mouth, GI, liver, lung and musculoskeletal involvement

- Classic chronic

Inflammatory activity

Lesion

Repair

Fibrotic damage

Actas Dermosifiliogr. 2016;107:183–93
MANAGEMENT OF CGVHD

Ocular: F/U Ophthalmology dry eye treatment

Skin: Symptomatic treatment fibrotic and non-fibrotic skin treatment
- Topical steroids/steroid shampoo
- Pro-topic
- Emollients
- Yoga/Stretching/massage/Physical Exercise

- Oral GVHD: Topical treatment

- Pain management
COGNITIVE CHANGES AFTER SCT

Cognitive Changes That Patients May Experience During and After Chemotherapy

- Difficulty with new learning
- Taking longer to complete tasks
- Trouble multitasking
- Difficulty finding the right word
COGNITIVE IMPAIRMENT MANAGEMENT

Cognitive therapist: can help with an overall plan for management

Address the additional factors that can lead to worsening of cognitive impairment

Activity and exercise can help with fatigue and sleep stress management, Depression

APP’s: Games, CBT, Mind-Doc, Calendars and reminders can all be very helpful

Caregiver and patient need to advocate to seek help with their care team
STEM CELL TRANSPLANT CARE DURING COVID

The care of patients during their transplant admission has significantly been impacted by COVID-19.

Trying to maintain COVID free units impacting work force and care

Visitor restrictions for family members and friends has lead to additional stressors for the Individual undergoing transplant including isolation, increased anxiety, communication with family members and discussion about the status of the patient undergoing SCT.

Since the majority of patients during the course of treatment Develop fever and cough the concern for being DX with COVID adds additional stressors and anxiety.
POST TRANSPLANT CARE DURING COVID

Follow up after a SCT is essential in monitoring blood counts, fatigue, weight gain and loss, diet and activity

During the pandemic trying to minimize visits and the incorporation of telemedicine has become standard to prevent exposure to COVID

This has lead to the patient and family having to do additional care and monitoring to avoid having to go to the ER post transplant

The additional cost of a pulse oximeter, Blood pressure cuff, scale and other items add additional tasks that caregivers must perform

Additional measures for hand hygiene, social distancing, avoiding travel, and private transportation has been deemed essential during the outbreak
Physical and social isolation while a usual practice now extends further and for a prolonged period of time.

Local nursing services have been extended further for a long period of time due to the inability to visit cancer centers.

Additional triage and test prior to essential visits are mandatory which leads to additional strain on the Cancer centers and staffing.
POST TRANSPLANT CARE DURING COVID

Managing the multitude of post transplant fatigue, stress, depression and activity

Trying to incorporate coping skills to address fatigue and loss of physical activity with online resources including yoga, strength training and mindfulness are important

Inactivity leads to additional stressors: muscle wasting, depression and additional fatigue
POST TRANSPLANT CARE DURING COVID

Telemedicine has been essential however recognition of acute GVHD and chronic GVHD can be challenging

ECP, steroids and multiple immunosuppressants increase the risk of the ability to respond to COVID Infection

Management of fever from viral and bacterial infection trying to avoid the ER is complex and the need to rule out COVID prior to admission remains challenging
POST TRANSPLANT CARE DURING COVID

In summary, the COVID-19 pandemic has resulted in unprecedented challenges to transplant programs and patients.

Transplant centers have transitioned to telemedicine and outpatient labs avoiding the need for unwanted exposure.

Maximizing support from each transplant center and utilizing the internet for mindfulness and activity is helpful in these unprecedented times.

With a hope to returning to some degree of normalcy in the near future.
The End