CARE OF THE OLDER HEMATOLOGY STEM CELL TRANSPLANT PATIENT

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How the Experts Treat Hematologic Malignancies
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DISCLOSURES

No Disclosures
Objectives

- Understand the impact of the aging population on HSCT medicine
- Identify hematologic malignancies prevalent in the older adult
- Identify eligibility criteria for older adults undergoing HSCT
- Discuss the multiple variables that can affect HCT outcomes in the older adult
- Discuss assessment tools available specific to the challenges found in HSCT in the older adult
- Identify practical applications to minimize challenges faced by the older adult in HSCT
Older adults receiving transplant

- Between 2012 and 2050 US will see huge growth in people over age 65
- Highest number of hematologic malignancies are seen in the older adult
- Arbitrary age maximums-two decades ago, auto limited to <60 years of age; allo limited <50
- Median age of most disease indication for transplant 68-70 years old
- Very little literature on the subject
Factors contributing to prognosis in the older adult undergoing HSCT

- Type of hematologic malignancy
- Biologic age
- Increased numbers of comorbidities
- Decreased organ reserve
- Conditioning regimen
- Polypharmacy
- Performance status prior to transplant
- Development of geriatric syndromes
- ????
Trends Leading to HSCT for Older Adults

- Advent of Reduced Intensity Conditioning
- Peripheral stem cells
- Infectious disease control
- Growth factors
- Immunosuppression choices
- HLA matching
- Better management of comorbidities
- Paradigm shift-looking at cure as goal for older adult
Case Study

- 78 year old male with MDS transformed into AML
- Treated with clofarabine and cytarabine
- Achieved remission
- Progressed to transplant from MUD
- Conditioning with Flu /Mel
- Medical History-Dyslipidemia and GERD
- Very active, independent
- Would we transplant?
Hematologic Malignancy

- Lymphoma
- MDS
- AML
- Multiple Myeloma
Comprehensive Geriatric Assessment

- Allows for multidisciplinary evaluation of multiple factors potentially influencing outcomes of HCT
- Comorbid disease, physical capacity, cognition, nutritional status, polypharmacy
- Can be time consuming
- Can be done in average of 20 minutes
- www.mycarg.org
Increased number of comorbidities

- Comorbidity scoring/risk index
- HCT-CI
- Biomarkers including elevated c-reactive protein

- Review all pre-existing conditions and monitor throughout treatment trajectory
Decreased organ reserve

- HCT-CI standardized tool to assess used in HSCT
- Pre-transplant- conditioning, diagnostic testing, supportive medications
- Transplant-ability to mobilize cells, ability to tolerate side effects
- Post-transplant-immunosuppression, anti-infectives, fluid/electrolyte balance
- Orthostatic hypotension, anticholinergics, opiates
- Close monitoring of VS, labs. Notify and act fast
Linear Decline Of Organ Reserve With Increasing Age

- 1: Cellular Water
- 2: Kidney Blood Flow
- 3: Maximum Breathing Capacity
- 4: Nerve Conduction Velocity
- 5: Heart Output

Percent Reserve Capacity Remaining

Age (years)
Conditioning regimen

- Myeloablative was standard of care leading to multiple toxicities
- Reduced intensity conditioning allows for better prognosis and less non relapse mortality
Polypharmacy

- Many patients are on multiple medications prior to transplant
- Medications required to manage toxicity are often dangerous in the older adult

- Brown bag review of all medications prior to admit
- Close monitoring of medication changes throughout hospitalization
# Functional Status
Beyond ECOG and KPS

<table>
<thead>
<tr>
<th>Activities Daily Living</th>
<th>Instrumental ADL</th>
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<tbody>
<tr>
<td>• Bathing</td>
<td>• Use telephone</td>
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<tr>
<td>• Dressing</td>
<td>• Shopping</td>
</tr>
<tr>
<td>• Toileting</td>
<td>• Food preparation</td>
</tr>
<tr>
<td>• Transferring</td>
<td>• Housekeeping</td>
</tr>
<tr>
<td>• Continence</td>
<td>• Laundry</td>
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<tr>
<td>• Feeding</td>
<td>• Transportation</td>
</tr>
<tr>
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<td>(drives or takes</td>
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<tr>
<td></td>
<td>public transport)</td>
</tr>
<tr>
<td></td>
<td>• Take own meds</td>
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<td></td>
<td>• Handle finances</td>
</tr>
</tbody>
</table>
Assessing Cognition- Why assess this?

- Determine decision-making capacity
- Determine ability to follow treatment plan
- Incidence of cognitive deficits increases with age
- Delirium occurs in up to 50% allogeneic recipients
Geriatric Syndromes

- Older adults are prone to having geriatric syndromes
- Health related conditions that do not follow a specific diagnosis
- Are prevalent in older adults, especially the frail elderly
- Can impact patient quality of life and poor outcomes
- What are geriatric syndromes?........
Geriatric Syndromes

- Instability
- Immobility
- Intellectual Impairment
- Incontinence
- Associated with poor survival independent of HSCT
Considerations in Geriatric Syndrome

- Multiple morbidities
- Polypharmacy
- Cognitive impairment
- Frailty
- Disability
- Sarcopenia
- Malnutrition
SPICES
Framework for Assessment

- Systematic screening tool
- Signals need for more specific assessment

Acronym of six common marker conditions

S is for sleep disorders
P is for problems with eating or feeding
I is for incontinence
C is for confusion
E is for evidence of falls
S is for skin breakdown

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Case Study Continued

- Patient received flu/mel conditioning
- Developed rash
- Tacrolimus/sirolimus for GVHD prophylaxis
- Developed GVHD liver, GI tract and metabolic encephalopathy
- Agitation requiring antipsychotics
- Stop immunosuppression
- Died after 4 months in the hospital
Recommendations

- Prior to transplant, assess HCT-CI, ECOG/Karnofsky
- Assess and intervene with decreased organ reserve
- Closely monitor medication and side effects
- Address changes in ability to perform ADL’s promptly
- Keep a collaborative relationship with the providers to ensure best possible outcomes
References