Inpatient Consult-Liaison Psycho-Oncology: A Curriculum for Psychiatry R2s

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Introduction and Problem Identification:

The Seattle Cancer Care Alliance (SCCA) is the collaborative treatment arm for the Oncology Departments at the University of Washington, Seattle Children’s, and the Fred Hutchinson Cancer Research Center. The SCCA has carved out several floors at the University of Washington Medical Center (UWMC) to create a hospital-within-a-hospital. This focus has significantly increased the number of cancer inpatients seen by the inpatient Consult-Liaison Psychiatry Service at the UWMC. Of the three hospitals where UW residents rotate, the UWMC has the greatest number of patients actively undergoing stem cell transplantation.

The American Psychosocial Oncology Society (APOS) developed online psycho-oncology training tools (http://www.apos-society.org/professionals/meetings-ed/webcasts.aspx) and has also articulated recommended topics for a two-year psycho-oncology curriculum (http://www.apos-society.org/professionals/tools-resources/teaching.aspx). There are excellent books that tackle the broad field, as for example, Holland’s Psycho-Oncology, 2nd Edition, Oxford Press, 2010. To our knowledge, however, there exists no published psycho-oncology curriculum geared towards psychiatry residents, much less residents on inpatient consult-liaison rotations.

The core psychiatry consult-liaison attendings at the UWMC have diverse interests, both psychologic and psychopharmacologic. As this core group rotates months on the inpatient psychiatry consult-liaison service, we recognized that no single attending had available the group’s cumulative knowledge. Moreover, the R2s on the service were not privy to the cumulative psycho-oncology teaching of the core attending group.

Needs Assessment:

The R2s who rotate on our inpatient consult-liaison service already spend two half-days of the week off the service, in didactics, outpatient clinics, and outside supervision. The consult-liaison clinical service needs are significant and it would be difficult to carve out more significant swaths of time. Therefore, the authors postulated that, over the course of resident rotation, six 20-minute didactics, done at the start of rounds, would be manageable.

To get the resident perspective, we enlisted the help of an R4, Dr. Braunstein. The authors then brainstormed potential didactic topics. We took the APOS Fellowship Curriculum topics, identified inpatient-specific subjects, and then grouped the topics together into overarching foci of basic stem-cell transplant biology, cancer-specific psychopharmacology, psychiatric symptoms of paraneoplastic syndromes, psychiatric side effects of cancer medication, resilience, and supportive therapy for demoralization.

We constructed a 10-question, anonymous, Catalyst Web survey that sought to confirm or refute our assumptions about prior psycho-oncology training, the palatability of the 20-minute didactic schedule, and resident overall comfort with, and understanding of, each proposed topic (see Appendix 7). We also asked for recommendations for other topics. The purpose of our survey was not only did we want to test our assumptions, but also
make the residents feel like they were a part of the process and to look forward to the
didactics.

Out of 66 Seattle-based residents in our program, 36 responded to the survey, including
12 of 16 R2s, to whom the didactic series is directed (see Appendix 8). Six residents
reported attending a prior didactic in psycho-oncology, citing a single lecture during the
regular psychiatry residency series. Thirty-four of 36 respondents approved of the
proposed format. Of the topics proposed by the authors, the preponderance of responders
rated their understanding or comfort with the material as “poor” or “decent.” In fact,
only one resident responded to any question with an indication of satisfactory knowledge.
This R2 noted that they were already comfortable with at-the-bedside supportive
psychotherapy for demoralization.

Resident-suggested topics that could be included were spirituality, death and dying, and
palliative care. Facets of these were subsequently included in the didactics. The authors
also confirmed that these topics were going to be covered in more detail as part of the
general residency didactic schedule.

**Goals and Objectives:**

Residents completing the curriculum will have specific data to answer common consult
questions, have a clearer understanding of biopsychosocial sequelae of cancer and its
treatment, and feel more comfortable interacting with patients on our oncology wards.

Course Objectives are as follows:

Upon completing the curriculum, the residents will
- Have a rudimentary knowledge of stem-cell biology.
- Be able to identify common cancer treatment-specific issues with standard
  psychopharmacology.
- Be able to identify common neuropsychiatric sequelae of paraneoplastic
  syndromes and chemotherapy agents.
- Recognize depression, demoralization, and interventions resulting in resilience in
  oncology inpatients.
- Feel more comfortable engaging in at-the-bed supportive psychotherapy.
- Have access to important articles for further reading on the presented topics.

**Educational Strategies and Objective Measurement:**

The topics we chose have a broad range of quantitative and experiential themes.
Moreover, the residents, as well as the attendings, have a broad range of learning styles.
We therefore set about to use multiple educational methods. We included diagrams to
help teach the stem-cell biology, interactive problem-based learning for
psychopharmacology and neuropsychiatric syndrome presentations, reflective discussion
regarding resilience, and role-playing for supportive psychotherapy.
The didactics were initially presented by each author, in front of the other authors and a group of R2s. One, 20-minute didactic was done each week. The length of the didactic was intended to be non-intrusive. The timing, first thing in the morning, was designed so as not to be a distraction once the work of seeing patients and documenting encounters was initiated for the day.

Given that the didactics were brief, the presentations were embedded with important journal references and recommendations for more in-depth reading. Moreover, we will refer to the didactics during actual cases we see on the CLP rotation during the month.

Trainee knowledge will be evaluated via demonstrated practice during the CLP rotation. At the completion of their consult rotation, residents will be asked to evaluate the didactics and whether the objectives had been met. This data will be collected over the course of an academic year and will be used to further enhance the curriculum.
Faculty Curriculum Guide

Didactic 1 – Medical Overview of Stem Cell Transplantation
This is a didactic to provide information about the process involved in stem cell transplantation. It includes an interactive review of hematopoiesis and details the steps involved in transplantation. We also explore possible scenarios requiring psychiatric consultation-liaison team involvement in the care of the stem cell transplant patients.

Objectives
At the end of the session, the resident will be able to:
1. Recognize the general process involved in stem cell transplantation.
2. Identify specific phases of stem cell transplantation during which psychiatric symptoms may become more prominent and thus prompt psychiatric consultation.

Overview
First, we introduce the terminology encountered in literature, as well as medical documentation regarding stem cell transplantation, clarifying some acronyms and distinguishing between hematopoetic and embryonic stem cells. We also introduce the general outline of the stem cell transplantation process, each step of which is discussed in more detail below.

Review of Hematopoiesis
The most interactive portion of this lecture, we spend a few minutes reviewing hematology with a sort of matching game; the group of learners is given an envelope containing different cell types and they are asked to arrange these correctly on a large board that contains an outline of the hematopoetic cascade.

Myeloablation
We discuss the chemotherapeutic regimens as well as XRT as methods of ablating marrow in preparation for transplant.

Stem Cell Infusion
The process of bone marrow stimulation, stem cell harvesting, as well as infusion is discussed, mentioning the intricacy of the actual protocols for this infusion.

Engraftment
The final stage of the stem cell transplant process is engraftment. The prolonged time course of this is discussed, as are the methods of speeding immune reconstitution.

Graft vs Host Disease/Graft vs Tumor Effect
The balance between myeloablation (to minimize GVHD) and preservation of the beneficial graft vs. tumor effect is explored. We review and define GVHD and graft vs. tumor effect, as well as discuss the treatment of GVHD, including steroids and other immunomodulating medications.

Common Times for Psychiatric Consultation
Transitioning from discussion of the prolonged immunosuppression that can result from delayed engraftment as well as GVHD treatment, we explore the learner’s ideas about common times that our services as psychiatric consultants are required. We create a list of possible psychiatric symptoms prompting consultation during times of a) immunosuppressant use, b) chemotherapy complications such as mucositis, c) delayed engraftment, and d) relapse.
References:

Websites
- http://www.cancer.gov/cancertopics/understandingcancer/StemCells/page1
**Didactic 2 – Assessment of Depression in Patients with Cancer**

This didactic is based on a single vignette, interspersed with didactic information. It focuses on the assessment of depression as well as creating comfort in discussing mood in the context of difficult medical treatment. It is designed so that the lecturer can pause at several points to solicit ideas from residents who have prior experience or knowledge in this area. Some of the references provided offer practical advice for residents who want to learn more.

**Objectives**

At the end of the session, the resident will be able to:

1. Discuss the challenges in diagnosing depression in a patient with cancer, including patient, family, and provider biases.
2. List common worries of cancer patients and proposed screening questions to assist in identifying patients who need further evaluation for depression and suicidality.
3. List the pain, sleep, and other neurovegetative symptoms that are more greatly correlated with depression in a patient than with typical, cancer-related symptoms.
4. Understand the emerging evidence for psychosocial treatments in depressed cancer patients with awareness of the limits of the evidence base in this area.

**Case:**
The case illustrates a fairly typical scenario of ambiguity over time about the presence of depressive symptoms in a patient undergoing active cancer treatment. The case is halted at several points along the way to elicit discussion and teaching in the following areas:

**Diagnostic Challenges:**
There are several diagnostic challenges in determining depression in this patient population, as well as biases about the diagnosis of which residents should be aware. This section also offers proposed screening symptoms that would suggest further depression assessment of a patient being treated for cancer.

**Topics for Initial Assessment:**
Residents can familiarize themselves with the common worries of cancer patients, useful questions to use with patients to elicit discussion of their mood, anxiety, and suicidality, and with particular symptom patterns likely to be associated with depression rather than cancer-related.

**Epidemiology of Depression in Cancer:**
Despite an increased prevalence of depression in patients with cancer than for those in outpatient primary care, depression is not inevitable.

**Psychosocial Treatments in Cancer:**
The best evidence is for medications plus supportive or cognitive behavioral therapy, however the overall evidence for the efficacy of psychosocial interventions is minimal and equivocal.

References:


Didactic 3 – Resilience

Cancer diagnoses and issues with terminal illness often elicit strong and sometimes inappropriately negative reactions from healthcare providers. This is an interactive and informational didactic that helps learners identify their immediate and characteristic responses to the topic of cancer. There is an increasingly rich literature reviewing those factors associated with successful and adaptive coping with cancer and other challenges. The didactic summarizes known resilience factors for cancer and briefly covers some interventions that have enhanced resilience and successful coping in cancer patients.

Objectives
1: Learners will display awareness of their biases and attitudes towards cancer diagnoses.
2: Learners will demonstrate understanding of at least 3 general resilience factors associated with coping with medical illness and cancer.
3: Learners will be familiar with research suggesting the role of interventions to improve coping in cancer patients.
4: Learners will demonstrate an attitude of compassion for patients’ existential struggles and suffering with illness and appreciate possible resilience factors in coping as demonstrated by observed in their case formulation or observed interviews by attending physicians on their C/L rotations.

A description of this didactic is contained in the notes on the Powerpoint slides in Appendix 3.

References:
Didactic 4 – At-The-Bedside Supportive Psychotherapy for Demoralization

Coping with terminal illness and dying are fundamental challenges for patients and providers. The term ‘demoralization’ has been coined to describe a failure of coping with existential threats, such as cancer and end of life. Authors have sought to define demoralization and formulate clinically applicable interventions as far back as 30 years ago. Griffith and Gaby (Psychosomatics 2005) articulated 7 pairings of “existential postures vulnerability and resilience to illness.” These pairings include confusion and coherence, isolation and communion, despair and hope, helplessness and agency, meaninglessness and purpose, cowardice and courage, and resentment and gratitude. These pairings allow a framework and organization with which to pursue bedside psychotherapy for demoralization.

Residents in psychiatry on consultation liaison services may have training in treatment via psychotherapy or pharmacotherapy for major depression. They may have had little exposure to interventions for demoralization or disorders of adjustment. This is an experientially-based intervention focused on introducing learners to the concepts of demoralization and existential postures as described by Griffith and Gaby. They are then presented with sample cases from the Griffith article and challenged to identify postures of demoralization and role-play interventions with a partner to move their client toward a position of greater strength and more adaptive coping. Ultimately the goal for this module is to then identify and intervene therapeutically with appropriate cases with attending supervision on the consultation-liaison service.

Objectives:
1) Learners will understand 3 key differences between depression and demoralization.
2) Learners will demonstrate understanding of postures of existential demoralization and their counterparts (remoralization).
3) Learners will demonstrate the ability to role-play identification and intervention with a sample case involving a demoralized patient
3) Learners will employ strategies for synthesizing understanding of demoralization in as demonstrated in their clinical formulation/assessment of a case during their C/L rotation.

A description of this didactic is contained in the notes on the Powerpoint slides in Appendix 4.

References:
1. Griffith, James L., Gaby, Lynne Brief Psychotherapy at the Bedside: Countering Demoralization From Medical Illness. Focus 2010 8: 143-150
Didactic 5 - Common Psychopharmacology Dilemmas

This is a vignette-based didactic with examples cases the Psychiatry C/L Service gets several times a year. Feel free to engage the residents after the case presentation, just to see if anybody happens to know the data or has gotten this question in real life. The second slide of each case summarizes the data and provides a journal reference should residents want to read more. Some of the cases have a third slide with “Clinical Bottom Line” recommendations.

Objectives
At the end of the session, the resident will be able to:
1. Recognize the timeframe when oral mucositis is most likely, how to proactively anticipate the challenges that mucositis presents in drug delivery, and how to adapt medication formulations after mucositis appears.
2. By the end of the didactic, each resident will know that certain antidepressants may render tamoxifen less effective and cancer more likely.
3. By the end of the didactic, residents will understand the role of stimulants for depression and cancer-related fatigue.
4. By the end of the didactic, residents will understand the unique pros and cons of mirtazapine.

Case #1
The first case involves the unusual circumstance of regarding data suggesting that several common antidepressants inhibit the metabolism of tamoxifen, thereby making breast cancer recurrence more likely. While there is not an absolute consensus, there is enough evidence for specific recommendations.

Case #2
The second case addresses our use of mirtazapine for depression/nausea/appetite stimulation/sleep. In truth, there are better hypnotics and better anti-emetics than mirtazapine. The rare bone marrow suppression associated with mirtazapine (frequency perhaps in the range of Clozaril) should be a bit alarming. One could still justify mirtazapine’s use if, for example, the risk from intractable nausea outweighed the marrow suppression risk.

Case #3
The third case addresses the use of methylphenidate for depression and cancer-related fatigue. This comes up during consults on Physical Medicine and Rehabilitation, as well. You might convey how the quick results and short half-life of methylphenidate make it an easy trial in appropriate cases. Residents have often heard that it is an appetite suppressant, though our clinical experience is that lethargic patients may be too tired to eat and that methylphenidate can actually improve caloric intake for some patients. Provigil has also been used in many types of medical fatigue and information on this can be found in Jean-Pierre, Cancer, 2010.
Case #4
Mucositis during chemo induction is something that residents may only see on our rotation, but using Prozac for SSRI withdrawal is a good trick for other situations, too.

References:

Case #1:


Case #2:

Case #3:


Case #4:
Didactic 6: Neuropsychiatric Sequelae of Cancer and Cancer Treatments

This is a vignette-based didactic with example cases based on patients encountered on our C/L service. The cases are examples of psychiatric symptoms occurring due to cancer treatments and/or cancer itself. Some of these are rare but come up in the differential frequently on our service. Similar to Didactic 5, the cases are meant to bring out discussion amongst the residents and students, perhaps revealing an already strong knowledge base for some and a deficit in others. The subsequent slides include basic data known about the topic with references followed by several journal references for those who want to read more on the topic. The final slide is the objectives of the session. These were purposely not revealed at the start to avoid giving the diagnosis away in the clinical vignettes.

These topics are very large and the planned time for this session is only 20 minutes. The purpose of this session is to cover the very basics and refer the learners to the literature for a more complete understanding.

Objectives:

1. Identify neuropsychiatric effects associated with chemotherapy agents
2. Identify neuropsychiatric sequelae of PRES as well as list causes of PRES.
3. List symptoms of paraneoplastic syndrome, cancers associated with paraneoplastic syndromes, and differentiate these symptoms from a primary psychiatric illness.

Case #1
The first case is a patient who develops psychotic and manic symptoms after prednisone was given for his prostate cancer. Faculty should present the case, then facilitate a discussion with the group about steroid induced neuropsychiatric treatments. Discussion should include symptoms that occur, incidence, risk factors, and options for treatment. The next several slides summarize what is the literature tells us about incidence, onset and risk factors of steroid induced psychiatric symptoms.

Case #2
The second case is an example of someone with Posterior Reversible Encephalitis Syndrome (PRES) from immunosuppressive therapy. Once again the case should facilitate discussion of a differential and clinical course of PRES but may quickly lead to the slides that follow which include presenting symptoms, typical imaging findings, etiologies and basic pathophysiology of PRES. Slides are followed by references for further reading as well as a slide with list of chemotherapy agents that can cause neurotoxicity.

Case #3
The final case is to represent paraneoplastic syndromes. The case itself is an example of Anti-NMDA encephalitis (which is often, but not always, cancer mediated). It opens up discussion of the paraneoplastic process seen in many types of cancer. A facilitated
discussion should occur including neuropsychiatric symptoms that occur with paraneoplastic syndromes, the cancers that are typically linked to paraneoplastic syndromes, and the recommended treatments for the syndrome. Pertinent references are included for further reading.

References:

Case #1:


Case #2:


Case #3:


Appendix 1:

Didactic 1 Slides:

Slide 1

STEM CELL TRANSPLANTATION

Slide 2

CONDITIONS TREATED BY STEM CELL TRANSPLANT
- Amegakaryocytosis/Congenital Thrombocytopenia
- Amyloidosis
- Aplastic Anemia/Refractory Anemia
- Germ Cell Tumors (Testicular Cancer)
- Paroxysmal Nocturnal Hemoglobinuria
- Hodgkin’s Disease
- Acute Leukemias
- Chronic Lymphocytic Leukemia
- Familial Erythrophagocytic Lymphohistiocytosis
- Non-Hodgkin Lymphoma
- Multiple Myeloma
- Osteopetrosis
- Myelodysplastic Syndrome/Other Myelodysplastic Disorders
- Solid Tumors
- Wiskott-Aldrich Syndrome
Slide 3

GENERAL PROCESS
- Myeloablation - days to weeks
- Stem Cell Infusion - hours
- Engraftment - months to years

Goal
- Ablate marrow enough to kill tumor and minimize GVHD, but not so much as to eliminate the useful graft vs tumor effect

So, seems relatively simple as a concept, not too far off from what we’ve learned about BMT

Slide 4

TERMINOLOGY (ALPHABET SOUP)
- PBSCT
  - Peripheral Blood Stem Cell Transplant
- HSCT
  - Hematopoietic Stem Cell Transplant
- ACBSCT
  - Autologous Cord Blood Stem Cell Transplant
- Autologous
- Self
- Syngeneic
  - Identical twin
- Allogeneic
  - Unrelated but HLA-matched
  - A, B and DR most important

So here’s where it gets complicated ... 43 yo F 6 d s/p PBSCT for CML

Slide 5

EMBRYONIC STEM CELLS
- VERY different
  - hESC
  - Eggs fertilized via IVF
  - Pre-implantation embryonic cells plated and cultured

NIH funding for hESC restricted for nearly 8 years
  - No limits on PBSC/HSC

Stem Cells are a dirty word in some circles
Let’s take couple of minutes to review which cells we’re talking about transplanting. You have 90 seconds, using the cells you have in front of you, arrange the cells on the board here in the proper configuration to demonstrate the hematopoetic process ... GO!

GENERAL PROCESS
- Myeloablation - days to weeks
- Stem Cell Infusion - hours
- Engraftment - months to years
- Goal
  - Ablate marrow enough to kill tumor and minimize GVHD, but not so much as to eliminate the useful graft vs tumor effect

Now let’s break down the steps of the stem cell transplant a bit further, first step 1, Myeloablation.

Regimens vary with type of cancer, molecular subtypes, patient comorbidities etc
Slide 9

GENERAL PROCESS
- Myeloablation - days to weeks
- Stem Cell Infusion - hours
- Engraftment - months to years

Goal
- Ablate marrow enough to kill tumor and minimize GVHD, but not so much as to eliminate the useful graft vs tumor effect

Slide 10

STEM CELL TRANSPLANTATION PROCESS
- Harvesting Cells
  - Induction of donor marrow
    - G-CSF injections 1-5 days prior to harvest
    - Increases stem cells in periphery 10-100-fold
  - Apheresis
    - 4-6 hours
    - 2-4 cycles to gather appropriate amount of circulating stem cells
    - Central line

G-csf and sometimes chemotherapeutic agents like cyclophosphamide, as well

Slide 11

STEM CELL TRANSPLANTATION
- Infusion
  - 1-5 hours
- Protocol for infusion
  - Premedications
  - Verification Procedures
  - Inform about side effects to expect
    - Cough, N/V, Intestinal cramps, abnormal taste, SOB

Actual infusion protocols are pages long for what amounts to a fairly rapid infusion in less than a nursing shift.
Interestingly, a common preservative has a profound odor, so it’s suggested to have an open vial of peppermint oil in the room, have patients suck hard candies, have an emesis basin handy
Here’s a helpful cartoon … actually the NCI site has good patient information, but I mostly included this here because of the smiling patient … Not usually the type of patient we see when we walk into a room for a consult up on the Heme/Onc floors ...

**Slide 13**

**GENERAL PROCESS**
- Myeloablation - days to weeks
- Stem Cell Infusion - hours
- Engraftment - months to years
- **Goal**
  - Ablate marrow enough to kill tumor and minimize GVHD, but not so much as to eliminate the useful *graft vs tumor* effect

**Slide 14**

**STEM CELL TRANSPLANTATION**
- Engraftment
  - 2-4 weeks before cells reach marrow, begin producing RBC/WBC/platelets
  - Months before autologous transplants recover full BM function
  - 1-2 years for allogeneic/syngeneic
- Methods to speed immunoreconstitution
  - T cell depletion
  - Genetically modified lymphocytes infused

These patients are often hospitalized for a very long time. Obviously there is great effort being placed into speeding up this process. T cell depletion is aimed to eliminate the presence of mature, functional T cells in the graft, but genetically modified lymphocytes can actually be infused which aid the recovery of bone marrow … way beyond the scope of this talk or my knowledge of hematology/immunology
Slide 15

GENERAL PROCESS
- Myeloablation - days to weeks
- Stem Cell Infusion - hours
- Engraftment - months to years

Goal:
Ablate marrow enough to kill tumor and minimize GVHD, but not so much as to eliminate the useful graft vs tumor effect

So, seems relatively simple as a concept, not too far off from what we’ve learned about BMT

Slide 16

GRAFT-VERSUS-HOST DISEASE
- New, donated cells identify native cells as foreign, mount immune response
- Acute and Chronic forms
- Most common sites
  - Skin
  - Liver
  - Intestine
- Prevention
  - T-Cell Depletion of donated cells

One of the entities I alluded to initially, then in the great balance that the heme/onc folks are trying to achieve. 35-77% incidence

Slide 17

GRAFT-VERSUS-TUMOR
- Graft versus Leukemia
  - Mature T cells from donor attack stray cancer cells
  - Enhanced prognosis in certain types of leukemia
  - T-cell depletion, to avoid GVHD, hinders this

Also alluded to the Graft vs Leukemia, which is an entity which occurs due to the lack of complete eradication of leukemic cells with chemotherapy (otherwise these folks would just be treated with chemo and not need a stem cell transplant, right?). This graft vs tumor battle actually is something that is a necessary part of the cure of these illnesses. So again, it’s a balancing act here to deplete T cells to minimize some significantly morbid complication, but not quite fully, so as to allow graft vs tumor
The problem is, again, the balance:
T-cell depletion is done prior to stem cell infusion to avoid GVHD (and decrease risk of graft failure and relapse), but again you don’t want to deplete completely ...

Slide 18

GVHD TREATMENT
- Steroids
- Tacrolimus
- Mycophenolate Mofetil
- Methotrexate
- Anti-thymocyte globulin

- Often means months of immunosupression

Slide 19

COMMON TIMES FOR PSYCHIATRIC CONSULTATION
- Immunosuppressant use
  - Delirium
  - Mood
  - Bone marrow suppression associated with SSRIs
- Complications
  - Nausea
  - Medication adjustments
  - Infections
  - Anemia
  - Anxiety
  - Delay in engraftment
  - Depression/Demoralization
  - Anxiety
  - Bone marrow suppression associated with SSRI
- Relapse
  - Depression/Demoralization
  - Anxiety
  - Death/Dying

So months of immunosupression mean months of vulnerability to infections, but also psychiatric sequelae, where we come into the picture.

Acute GVHD: more monoclonal Abs, sirolimus, mycophenolate mofetil. Chronic GVHD: steroids more, also mycophenolate mofetil
REFERENCES


Websites
- Mayo clinic - video

Didactic 1 Poster Picture
Appendix 2:

Didactic 2 Slides

Slide 1

Assessment of Depression in Patients with Cancer
Kjersti Braunstein MD

Slide 2

Is She Depressed?
You are asked to consult for diagnostic clarification on a 57-year-old woman s/p stem cell transplant for high risk ALL who is recovering from a recent episode of EBV encephalitis. Her primary team, concerned about tearfulness and minimal participation in her care, started an SSRI and a stimulant 10 days ago. At the time of psychotropic initiation, the team did not note disorientation or a waxing/waning element to her presentation. She and her husband were unaware of the new medications until today and do not think she was ever depressed. They hypothesize that she just feels better, physically, this week.
Solicit ideas about the factors. Patients, family, and providers may all have beliefs that being down or hopeless is natural, providers may have biases that depression is inevitable. Patients and families often have strong beliefs that a “fighting spirit” is essential to a good outcome, making perceived risks for the patient if they disclose depressive symptoms. Patients have physical symptoms that can cause sleep disturbance, psychomotor retardation, appetite disturbance, poor concentration, low energy.

A wide variety of scales (Hamilton, CES-D-Center for Epidemiologic Studies, ESAS-Edmonton Symptom Assessment System) are used in the US, other studied regions may favor one scale or the other (HADS in Europe). Should we exclude neurovegetative symptoms for cancer or other chronically ill patients?

3. Weinberger and colleagues advocate for use of depressed mood and loss of interest as “gateway” symptoms, meaning further symptom assessment is predicated on the presence of these symptoms.
Slide 4

What do I Say?
As you stand outside the patient’s door, you feel the butterflies in your stomach, begin catastrophizing about your knowledge deficits about cancer treatment, and anticipate the derision which will surely be cast upon you after asking someone this sick how they’re eating and sleeping and enjoying themselves this week. What might you ask, both to help your assessment, and to build rapport with the patient?

Slide 5

What do we talk about?
• Worries are common in cancer patients
  – Death, dependency, disfigurement, disability, sexual dysfunction, disrupted relationships, pain.
• Methods to elicit mood in the context of illness
• What vocabulary and strategies to use to discuss suicide in CL patients compared to 7N patients?
• Areas to assess to aid in depression diagnosis
  – Assess the particulars of pain and symptoms
  – Assess hopelessness
  – Assess sleep.

Solicit ideas prior to heading to next slide

Worries about death, dependency, disfigurement, disability, sexual dysfunction, disrupted relationships, pain. May not be items you’d run off like a checklist, but may ask about how cancer has affected some of these areas or ask if they have these worries, or listen for these themes, validate and normalize their concerns.

Questions you could ask:
  How well are you coping with your cancer?
  How are your spirits since diagnosis? During treatment?
  How does the future look to you? (gets at suicide risk)
  Do you feel that you can influence your care or is it totally under others’ control?
  Do you worry about being a burden to your family/friends during treatment? (gets at suicide risk)
  Do you feel others might be better off without you? (gets at suicide risk)
  Do you have pain that is not well controlled?
  How much time do you
spend in bed? Are you weak?
Do you fatigue easily? Do you feel rested after sleep?
Is there any relationship to change in treatment and how you feel physically?
How is your interest in sex?
Do you have concerns about sexual function?

3. Methods to differentiate cancer symptoms from depression from Weinberger (specific to the elderly, depressed patients more likely to report):
General malaise often reported rather than sadness/lost interest
General aches/pains rather than tumor specific pain
Diffuse somatic complaints rather than treatment related effects
Hopelessness
Late insomnia: waking in the middle of the night with worries
Mood variation throughout the day
Loss of sexual interest
Epidemiology

- Depression is 2-3 times more prevalent in hospitalized or chronically ill patients
- Prevalence similar across cultures
- Depression is not inevitable


Than in outpatient primary care, where prevalence of depression is 6-14% and the lifetime incidence is 15%. Prevalence is lower in studies where depression is more narrowly defined.

Psychosocial Treatments in Cancer Patients

- Cochrane reviews find psychotherapy effective for depressive states in incurable cancer.
- Level 1 evidence for these psychosocial treatments:
  - Depression can be managed with medications plus supportive or cognitive behavioral psychotherapy
  - Psychological support plus information about upcoming procedures relieves psychological distress
- Overall data for efficacy of psychological interventions in reducing depressive symptoms remains equivocal
- No data on whether combination treatment is superior in cancer patients, but patients often prefer psychotherapy alone
- Psychotherapy may improve treatment adherence or regulate the HPA axis, thus modifying physical health outcomes, but the evidence for this effect is equivocal or conflicting

Psychotherapy was CBT, supportive, or problem solving therapy, 6 total studies. No studies used clinically diagnosed depression.

3. The two largest systematic reviews have different results, though no meta-analyses/reviews focus on psychological interventions specifically for the endpoint of depression. One reports a significant moderate effect size for reduced depressive symptoms from psychoeducation. Another systematic review of psychotherapy finds only 24/114
studies showed an advantage for the intervention on the endpoint of depression.
Appendix 3

Didactic 3 Slides

Slide 1

Resilience and Coping with Demoralization
Psychoncology Curriculum

Slide 2

Goals:
• Identify self-reaction to cancer
• Understand concept of resilience
• Identify factors in resilience in cancer
Distress in Cancer

- "An unpleasant emotional experience of a psychological, social and/or spiritual nature which extends on a continuum from normal experiences of vulnerability, sadness and fears to disabling problems such as depression, anxiety, panic, social isolation and spiritual crisis."

Adopted, NCCN

Resilience

- "Resilience is the ability to maintain normal functioning despite adversity. It can be viewed as the successful operation of "basic human adaptational systems."

Charney, Southwick 2007

"stress inoculation"

- Those who successfully managed stressful situations in childhood including death, illness of a parent or sibling, family relocation, and loss of friendship—are more resistant to adulthood stressors

trauma and their confidence from the past-- DF

Slide 6

Resilience Factors in Cancer
- Social Support
- Spirituality and faith
- Self-Efficacy/Internal Locus of Control
- Cognitive appraisal
- Benefit finding

Stewart and Yuen. 'A Systematic Review of Resilience in the Physically Ill.' Psychosomatics 2011; 52:199 –209

Slide 7

Also: Sense of Coherence
- Integrates essential parts of the stress/coping model (comprehensibility, manageability) and of spirituality (meaning).

Slide 8

<table>
<thead>
<tr>
<th>Support-- Patient’s words:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• “I had that image of my parents…standing behind me…and telling me everything would be alright…that really gave my comfort”**</td>
</tr>
<tr>
<td>• “[It’s important] for people to try to understand what people are going through. I think it’s just as important as the medical treatment.”***</td>
</tr>
</tbody>
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Slide 9

<table>
<thead>
<tr>
<th>Benefits of Faith:</th>
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<tbody>
<tr>
<td>• “I’m not sure where I’m going or what I’m here for. But my belief is strong that I belong here for a reason, that I have something to do and I will find it. There is a reason that I’m here.”**</td>
</tr>
<tr>
<td>• “We believe we’re all connected and that there’s, a reason for this.”</td>
</tr>
<tr>
<td>• “The soul never dies. The body is just like the jacket you are putting on.”***</td>
</tr>
</tbody>
</table>


---

Slide 10

<table>
<thead>
<tr>
<th>Internal Locus of Control and Self-Efficacy</th>
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</table>
"When you think about it what other choice is there but to hope? We have two options, medically and emotionally: give up or Fight Like Hell."

**Self-efficacy: active coping**
- “problem-focused” (working to solve the problem)
- “emotion-focused” (accepting and dealing with emotions)

Viktor Frankl:
- "...We who lived in concentration camps can remember the men who walked through the huts comforting others, giving away their last piece of bread. They may have been few in number, but they offer sufficient proof that everything can be taken from a man but one thing: the last of the human freedoms - to choose one's attitude in any given set of circumstances, to choose one's own way..."
Slide 14

Cognitive Reappraisal:

• “It is just bronchitis, as long as it isn’t pneumonia, you don’t have to worry but it is still annoying because if it is a weakness… but at least it’s curable.”

• You know I don’t think about [relapse or another cancer]. If it happens, I know it could always happen but…I try not to think about it….I try to keep a positive attitude about it and go for today and worry about tomorrow when it comes.”


Slide 15

Finding Benefits:

• “I don’t think that I would have the attitude that I have. …I think that totally came from that experience…I’m so optimistic, so positive and willing to live for now.”

• “Taught me how to face adversity and not feel sorry for myself, and just fight and be strong, and it just gave me a good example.”

• “I can cope with this, I can deal with this, and in a way that’s been empowering for me….I’ve had to rise to the challenge.”


Slide 16

Can you improve resilience and “fighting spirit?”

–3 Studies Say Yes!
1) Antoni and Carver: Enhancing Adaptation
- Cognitive Behavioral Stress Management in Breast Cancer
  - Decreased distress
  - Decreased serum cortisol
  - Decreased inflammatory cytokine activity


2) Nezu: “Project Genesis”
- Benefits of problem-solving focused therapy
  - Improvement in well-being
  - Decreased distress and improved life quality

3) Cimprich: Taking CHARGE
Positive feedback from participants of 6 week Program after breast cancer -- steps:
- Choose a concern
- Have the information
- Assess the situation
- Record the plan
- Gain confidence and insight
- Evaluate progress


Further Reading:
- Stewart and Yuen. 'A Systematic Review of Resilience in the Physically Ill.' Psychosomatics 2011; 52:199–209
Appendix 4

Didactic 4 Slides

Slide 1

Countering Demoralization in Cancer

Slide 2

Definition:
• “Various degrees of helplessness, confusion and subjective incompetence” to adversity

• Normal human response to overwhelming circumstances
Slide 3

Depression vs. Demoralization

- Depression: Guilt, Anhedonia
- Demoralization: Sleep, Appetite, Energy, Suicidal Thoughts

Slide 4

Demoralization vs. Depression

- Shorter duration
- Reactive to family and supports
- Specific to stressors
  - “How would you be coping if this went away?”

Slide 5

Responding to Support
Existential Challenges:

I lost my flight plan—issue of control as control for one patient.

From Psychosomatics 46:109-116, April 2005
© 2005 The Academy of Psychosomatic Medicine

Brief Psychotherapy at the Bedside: Countering Demoralization From Medical Illness
James L. Griffith, M.D., and Lynne Gaby, M.D.
Slide 9

DO:
1) Ameliorate physical or emotional stress
2) Strengthen patients resilience to stress

Slide 10

Promoting resilience
• Assess for prior strengths and life challenges
  – What have you overcome previously like this?
  – What has helped in the past?
  – How do you cope with adversity?
• Engage the family and members of the treatment team

Slide 11

Provide:
Witnessing
Validating
Normalizing
Slide 12

Treatment: NOT
Antidepressants

Slide 13

Case #1: Depression?
• 32y/o woman with recurrent lymphoma with failed bone marrow transplant. She is upset that her oncologist has inadequately treated her pain and that he disagreed with her wish to stop chemotherapy. She felt alone and uncared for adding “why can’t everyone leave me alone so I can die?” She was visibly confused and overwhelmed.

Slide 14

Coherence vs. Confusion
• How do you make sense of what you are going through?
• How do you deal with being confused?
• To who do you turn when you feel confused?
Slide 15

Your intervention:

- You restate patient concerns and help her make a list of priorities to discuss with her team including a consultation for a second opinion, pain, feeling depressed and whether to continue treatment.
- Help your patient stay focused in her meeting with her oncologist and team
- “I can think more clearly. Now I have a plan.”

Slide 16

Case #2

- Ms. E, a 60-year-old woman, had had neurosurgery for a brain glioma 3 days earlier. Psychiatric consultation was requested for her depressed mood. Her initial symptoms had begun a week earlier with incoordination and weakness in her left arm.

Slide 17

Agency vs. Helplessness

- What is your list of concerns? Which is first/next?
- What helps you stand against the challenges of your illness?
- What should I know about you as a person that lies beyond your illness?
Your interventions

• Review patient’s coping with her own mother’s chronic illness: “What would she say to you.” (“Get on with it!”)
• Connect her with physical therapy and rehabilitation.

Case #3

• Ms. F was a 35-year-old non-English-speaking Asian woman with recurrent metastatic breast cancer who had a poor prognosis for long-term survival. With her husband interpreting, she told about her fears: that she could not bear more bad news, that she could not bear the pain, and that she could not face going home from the hospital.

Courage vs. Cowardice

• Were you tempted to give up but didn’t?
• How did you make a decision to persevere?
• If you saw someone else make such a step, despite their fear, would you consider it courageous
• Might others who witness how you cope describe you as courageous?
Your interventions:

• Amplify husband’s statement: “I think she is a very courageous woman. She has already been through this twice, and now she may be facing it again. Most people couldn’t do what she has done.”
• Look for other opportunities to view courage or her family’s witnessing of this.

Case #4

• Mr. C was a 48-year-old man who had been admitted to the hospital 72 hours earlier because of weakness in his arm and leg. After a chest X-ray and MRI of his brain, however, he was told, “You have stage-four cancer and it has metastasized to your brain.” He responded that “it’s the end of the race,” and he told a nurse that he was going home to shoot himself with his gun.

Hope vs. Despair

• From what sources do you draw hope?
• On difficult days, what keeps you from giving up?
• Who in your life would not be surprised to see you stay hopeful amid adversity?
Your interventions:
• Assess for safety
• Review his previous strengths as statistician in industry to bear on dealing with his prognosis: “When in your life did you learn to do this, or who did you learn it from?”

Resources:
• Griffith, James L., Gaby, Lynne Brief Psychotherapy at the Bedside: Countering Demoralization From Medical Illness. Focus 2010 8: 143-150
Appendix 5:

Didactic 5 Slides

Slide 1

Psychoonc Curriculum: Pharmacology Vignettes

Slide 2

Case #1

A 40yo woman with a history of estrogen-receptor positive breast cancer, currently on tamoxifen, is hospitalized for pneumonia. Psych C/L is consulted for her report of two months of symptoms meeting criteria for major depression. She reports her sister had good benefit, and minimal side effects, from sertraline. The consulting psychiatrist discusses other medication options, but agrees that sertraline is reasonable. Two years later, she has a recurrence of her breast cancer, and dies of metastatic disease.

The first case involves the unusual circumstance of regarding data suggesting that several common antipsychotics inhibit the metabolism of tamoxifen, thereby making breast cancer recurrence more likely. While there is not an absolute consensus, there is enough evidence for specific recommendations.
Did the psychiatrist increase her chances of death?

- To varying degrees, the SSRIs and bupropion inhibit 2D6. Tamoxifen requires 2D6 for transformation into an active metabolite.
- A study of 2430 patients found a significant increase in death from breast cancer in patients who concurrently used tamoxifen and paroxetine (Kelly, BMJ. 2010 Feb 8;340). The findings have not been universal, however.
- A good review of the topic is Cronin-Fenton, Future Oncol., 2010: 6(6).

The Clinical Bottom Line

- Paroxetine, sertraline, fluoxetine, and bupropion are strong 2D6 inhibitors and, for now, you should avoid them in patients on tamoxifen.
- Citalopram, escitalopram, venlafaxine, and fluvoxamine are weak 2D6 inhibitors and there is no current evidence that these are contraindicated.

Case #2

- A 50yo man with a history of depression, s/p stem cell transplant, has ongoing mild neutropenia and is experiencing low mood, intractable nausea, poor appetite, and poor sleep. An Oncologist calls the Psych C/L, noting he has heard that mirtazapine might help this patient’s sleep, appetite, and nausea. However, he is worried about the propensity of psych meds to cause marrow suppression.

The second case addresses our use of mirtazapine for depression/nausea/appetite stimulation/sleep. In truth, there are better hypnotics and better anti-emetics than mirtazapine. The unusual bone marrow suppression associated with mirtazapine (perhaps in the range of Clozaril) should be a bit alarming. One could still justify mirtazapine’s use if, for example, the intractable nausea outweighed the marrow suppression risk.
Can we allay the concerns about mirtazapine?

- Though so rare that a true incidence is not known, blood dyscrasias have been reported in tricyclics, phenelzine, trazodone, venlafaxine, and mirtazapine.
- Mirtazapine works centrally to increase gastric motility and has been used successfully for refractory nausea during cancer treatment. The literature suggests a 0.02% - 1.9% incidence of bone marrow toxicity with this mirtazapine.

Are antipsychotics toxic to bone marrow?

- Blood dyscrasias have been reported with every typical and atypical antipsychotic, though clozaril is by far the most notorious (risk of neutropenia and agranulocytosis is 3% and 0.8%, respectively), with phenothiazines coming in a distant second (risk of agranulocytosis 0.13%).
- Flanagan, Hum Psychopharm Clin Exp, 2008 has more info.

Clinical Bottom Line:

- Oncology inpatients are so physically ill, in general, that we tend to show even more restraint than normal about using psychotropics. We try hard to employ non-pharmacologic interventions, reserving meds for patients whose symptoms are causing clear harm.
- For more reading on hematologic toxicity from psychotropics, see Flanagan, Human Psychopharmacology, 2008; 23: 27-41.
Case #3

A 60yo woman with 2 months of mild depression, currently on citalopram, is now 15 days s/p stem cell transplant. She is experiencing significant fatigue, beyond what is expected by the Oncologist, and is not able to muster the effort to work with PT and OT. Oncology calls Psych C/L, worried that her low energy is going to lead to prolonged hospitalization and medical complications. They would like to put her on methylphenidate for her depression and energy.

The third case addresses the use of methylphenidate for depression and cancer-related fatigue. This comes up during consults on Rehab Medicine, as well. You might convey how the quick results and short half-life of methylphenidate make it an easy trial in appropriate cases. Residents have often heard that it is an appetite suppressant, though our clinical experience is that lethargic patients may be too tired to eat and that methylphenidate can actually improve caloric intake. Provigil has also been used in many types of medical fatigue and information on this can be found in Jean-Pierre, Cancer, 2010.

What is the evidence for methylphenidate in depression and fatigue?

- For depression in otherwise healthy adults, there is some evidence that, at least in the short term, psychostimulants have a statistical benefit, though not a clear clinical benefit (Candy, Cochrane Database, 2008).
- In cancer-related fatigue, methylphenidate showed a small, but statistically significant benefit (Minton, Cochrane Database, 2008).
- In terminally ill patients, there is no clear data to suggest benefit, but, in a palliative care model, sometimes we try anyway (Hardy, Am J Geriatr Pharmacother, 2009 Feb;7(1)).
Case #4

A 25yo man, currently on citalopram for depression, is undergoing induction chemotherapy for a stem-cell transplant. He develops oral mucositis to the point that, while he can still take sips of water, he cannot swallow tablets or capsules. Oncology calls Psych C/L noting that, while all of his other meds have been switched to IV, there do not appear to be any IV antidepressants.

The mucositis during chemo induction is something that residents may only see at UWMC, but using Prozac for SSRI withdrawal is a good trick for other situations too.

How do we manage antidepressant drug delivery during oral mucositis?

- Mucositis usually lasts less than a week, though the absence of antidepressants could have a clinical impact or result in SSRI withdrawal.

- See if the patient can tolerate a liquid form of their antidepressant (e.g., citalopram 10mg/5mL). Unfortunately, there is no data on how GI mucositis impacts liquid SSRI absorption.

- If SSRI delivery seems unpredictable, and the patient has significant SSRI withdrawal, you could consider switching to liquid fluoxetine.

Appendix 6

Didactic 6 Slides

Slide 1

Psychooncology

Neuropsychiatric symptoms caused by cancers and their treatments

Slide 2

What about the Brain??!!
CASE #1

- A 73 year old male with no psychiatric history has metastatic prostate cancer. He received a pulse of high dose prednisone (up to 80mg a day) as an outpatient. Over the last week he has not been himself. He is sleeping less than 2 hours a night and has been doing multiple projects around the house including re-roofing his home.

- Wife tried to get him to come into the clinic but he got very angry and refused. He became verbally aggressive and frightened his wife. She called the police and he was brought to the ED.
- In the ED he had pressured speech, grandiosity and was intensely angry refusing care. He required restraints and was admitted to the Heme-onc service.

Steroids

- What can steroids cause?
- Does dose matter?
- How do we manage symptoms?
Slide 6

Steroid Induced Symptoms

- Incidence 2-71%
- 5-10% incidence of major sx on high doses
- Psychiatric history isn’t a predictor
- Past steroid induced symptoms don’t predict subsequent reactions (Kershner & Wang-Cheng)
- Past LACK of steroid induced symptoms are not predicative of future symptoms (Brentzel, Holland)

Incidental findings – psych sx not specifically monitored – those that do – higher incidence

Slide 7

Risk Factors

- High doses \(\rightarrow\) higher incidence of severe AE
- Dose does not predict onset, duration, or type of symptoms
- Hypoalbuminemia

Slide 8

What can steroids cause?

- Anxiety
- Depression (more likely in chronic use)
- Hypomania (most common)
- Mania (more likely with high dose pulse)
- Psychosis
- Delirium (more likely in CA patients)
- Cognitive Impairment

Cognitive – even at low doses with low co-morbidities folks show poor declarative verbal memory. Profound dementia found as well. Usually reversible.
Management of Steroid Induced Sx

- Benzodiazepines (anxiety, mania)
- Antipsychotics (mania, psychosis, delirium)
- Mood stabilizers (mania)
- Avoid TCA’s
- Reduce and DC steroids when possible

TCA’s have been shown to worsen sx if needed use ssri but data isn’t good about antidepressants so avoid (Brown J Clin Psych)
Severe psychiatric sx are rare in doses <40mg a d (1.3%), at doses >80mg/d it is 18.4% (Boston Collaborative Drug Surveillance Prg. Clin Pharmacol Ther 1972; 13:694-698. looked at 667 pay put on steroids with not prior psych hx.

Steroid References

CASE 2
48 year old woman is s/p BMT for recurrent AML and is on immunomodulation therapy. She begins having headaches and then becomes more confused with visual loss.

Tacrolimus
CT and MR: lesions involving the occipital and parietal regions
VASOGENIC EDEMA
Less often fronto-parietal/inferior tempor-occipital junction
MR low SI on T1-weighted images
FLAIR most sensitive sequence for cortical and subcortical lesions

Also seen with hypertensive encephalopathy - eclampsia

TX: treat hypertension, seizures (phenytoin- Mag and delivery in eclampsia), lower agent or switch
Higher risk of developing PRES with chemo: fluid overload, BP > 25% of base line. Cr >1.8
Slide 15

PRES References


Slide 16

Neurotoxicity of Chemotherapy (just to name a few…)

- Encephalopathy/seizure
  - Cisplatin IV
  - Cytarabine (araC)
  - Etoposide
  - Interleukin-2
  - Paclitaxel
  - ThioTEPA

- Leukoencephalopathy
  - Carmustine (BCNU)
  - 5-Fluorouracil/levamisole
  - Methotrexate IT (can be delayed years)
  - Purine analogs

Dropcho Neurological Complications of Cancer Seminars in Neurology. 24:4, 2004

Slide 17

Now we know tx is no cake walk-- what can Cancer itself do….
CASE 3

- 23 year-old woman presents to the ER initially for severe headache and malaise felt to be related to a viral illness. Over the next several days she developed odd behaviors including laughing inappropriately, talking to herself and having hallucinations.
- She re-presents to the ER for a psychiatric evaluation and has a seizure and severe autonomic instability. She is intubated and admitted to the ICU.

Paraneoplastic Syndrome

- What are the symptoms?
- What cancers are associated?
- How do we differentiate from psychiatric conditions?
- How do we treat?
**Slide 21**

**Symptoms of Paraneoplastic Syndrome**

- Limbic Encephalitis is one of the most common manifestations of PNS
- Mimics delirium
- Behavioral/mood disturbance
  - Irritability, depression
  - Hallucinations
  - Personality disturbances
  - Cognitive changes

Foster et al. Psychosomatics 50:2, March-April 2009

**PLE usually considered when Delirium is atypical (not responding to neuroleptics, sx of sze, eye motility dysfunction, hypventilation) or with no clear other cause (metabolic, infectious intracranial process).**

---

**Slide 22**

**Associated Cancers...**

- Thymomas (20%)
- Small Cell Lung Cancer (3-5%)
- Ovarian (1%)
- Breast (1%)
- Testicular Cancer
- Prostate
- Neuroblastoma
- Rhabdosarcoma
- And more..?

Kayser 2010

**Prevelance of Paraneoplastic syndroms are in (%). Kayser 2010**

---

**Slide 23**

**Treatment?**

- Treat underlying cancer
- Immunotherapy
  - Methylprednisolone
  - Plasmapheresis and/or
  - IVIG...if poor response consider
  - Cyclophosphamide or Rituimab
- Psychiatric medications?
- ECT

Foster et al. Psychosomatics 50:2, March-April 2009
Paraneoplastic References


Objectives

1. Identify neuropsychiatric effects associated with chemotherapy agents
2. Identify neuropsychiatric sequelae of PRES as well as list causes of PRES.
3. List symptoms of paraneoplastic syndrome, cancers associated with paraneoplastic syndromes and differentiate these symptoms from a primary psychiatric illness.
Appendix 7

Needs Assessment Survey Questions

Question 1.
What is your current year of training?
- R1
- R2
- R3
- R4
- Fellow

Question 2.
Outside of on-the-fly discussions, have you gotten any psycho-oncology training during residency?
- Yes
- No

Question 3.
If you answered "yes" to Question 2, could you briefly describe your previous training to us?

Question 4.
How would you rate your understanding of the expected medical course and side effects of stem cell transplantation?
- poor
- decent
- great

Question 5.
How would you rate your understanding of the psychological challenges of stem cell transplant (or cancer and its treatment)?
- poor
- decent
- great

Question 6.
Question 6
How would you rate your understanding of psychopharmacology issues (psych side effects of cancer meds, drug interactions, drug delivery variability) during cancer treatment?
- poor
- decent
- great

Question 7.
How would you rate your comfort and skill in treating demoralization with at-the-bedside psychotherapy?
- poor
- decent
- great

Question 8.
Beyond the previous four ideas, are there other psycho-oncology topics that you would like us to address? Where do you perceive the deficiencies (skills, knowledge, attitudes, etc) in your current psycho-oncology C/L training?

Question 9.
Given how full your lecture schedule already is, our best idea so far is to develop a short series of mini-didactics (20 minutes) that we would deliver during rounds on the R2 C/L rotation. What do you think?
- That's great!
- I'm skeptical.

Question 10.
If you answered "I'm skeptical" above:

Skeptical?! Hey, man, who do you think you are? We put a lot of thought into this! Why all the hatin'?

Seriously, though....would you prefer something different? Different teaching style? Different setting?
Appendix 8

Needs Assessment Results for Quantitative Questions

Total submissions: 36

* Calculated using numeric values

Multiple choice - one answer (menu) Question
What is your current year of training?

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Response statistics*
Mean: 2.47
Median: 2.00
Mode: 2
Min/Max: 1/4
Standard deviation: 1.11

Multiple choice - one answer (button) Question
Outside of on-the-fly discussions, have you gotten any psycho-oncology training during residency?

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<tr>
<td>2</td>
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<td>30</td>
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Response statistics*
Mean: 1.83
Median: 2.00
Mode: 2
Min/Max: 1/2
Multiple choice - one answer (button) Question
How would you rate your understanding of the expected medical course and side effects of stem cell transplantation?

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<tr>
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Response statistics*

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<td>Standard deviation</td>
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Multiple choice - one answer (button) Question
How would you rate your understanding of the psychological challenges of stem cell transplant (or cancer and its treatment)?

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Response statistics*

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<td>Standard deviation</td>
<td>0.51</td>
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</tbody>
</table>
Multiple choice - one answer (button) Question
How would you rate your understanding of psychopharmacology issues (psych side effects of cancer meds, drug interactions, drug delivery variability) during cancer treatment?

Total responses (N): 36 Did not respond: 0

<table>
<thead>
<tr>
<th>Numeric value</th>
<th>Answer</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>poor</td>
<td>31</td>
<td>86.11%</td>
</tr>
<tr>
<td>2</td>
<td>decent</td>
<td>5</td>
<td>13.89%</td>
</tr>
<tr>
<td>3</td>
<td>great</td>
<td>0</td>
<td>0.00%</td>
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Response statistics*

<table>
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<th>Value</th>
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<tr>
<td>Median</td>
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</tr>
<tr>
<td>Mode</td>
<td>1</td>
</tr>
<tr>
<td>Min/Max</td>
<td>1/2</td>
</tr>
<tr>
<td>Standard deviation</td>
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</table>

Multiple choice - one answer (button) Question
How would you rate your comfort and skill in treating demoralization with at-the-bedside psychotherapy?

Total responses (N): 36 Did not respond: 0

<table>
<thead>
<tr>
<th>Numeric value</th>
<th>Answer</th>
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<th>Percentage</th>
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<tbody>
<tr>
<td>1</td>
<td>poor</td>
<td>12</td>
<td>33.33%</td>
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<tr>
<td>2</td>
<td>decent</td>
<td>23</td>
<td>63.89%</td>
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<tr>
<td>3</td>
<td>great</td>
<td>1</td>
<td>2.78%</td>
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Response statistics*

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<tr>
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<td>Mode</td>
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<tr>
<td>Min/Max</td>
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<tr>
<td>Standard deviation</td>
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</table>

Multiple choice - one answer (button) Question
Given how full your lecture schedule already is, our best idea so far is to develop a short series of mini-didactics (20 minutes) that we would deliver during rounds on the R2 C/L rotation. What do you think?
Total responses (N): 36 Did not respond: 0

<table>
<thead>
<tr>
<th>Numeric value</th>
<th>Answer</th>
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<th>Percentage</th>
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<tbody>
<tr>
<td>1</td>
<td>That's great!</td>
<td>34</td>
<td>94.44%</td>
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<tr>
<td>2</td>
<td>I'm skeptical.</td>
<td>2</td>
<td>5.56%</td>
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**Response statistics***

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<td>Standard deviation</td>
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