Implementation of Hematology-Oncology Education Program

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Hospital Statistics
952 Licensed Acute and Intensive Care Beds
- 273,128 (approx. 748 per day) – Patient Days.
- 350,405 (approx. 957 per day) – Outpatient Visits
- 54,947 – Inpatient Visits
- 77,964 (approx. 213 per day) - Emergency Department Visits
- 112,547 - Patients Cared for by Cedars-Sinai Medical Delivery Network

Residency Training Programs
- Anesthesiology
- Combined Pediatrics—Medical Genetics
- Dermatology
- Diagnostic Radiology
- Internal Medicine – approx. 50 interns, and over 70 residents in the 2nd yr as well as 2nd year matched interns make up part of inter class
- Medical Genetics
- Neurological Surgery
- Obstetrics and Gynecology
- Pathology and Laboratory Medicine
- Pediatrics
- Psychiatry
- Surgery of trauma
- Thoracic Surgery

Fellowship Training Programs
- Addiction Psychiatry
- Addiction Imaging Fellowship
- Child and Adolescent Psychiatry
- Colon and Rectal Surgery
- Endocrinology, Nutrition, and Metabolism
- Endocrinology
- Health Services Research
- Medical Genetics
- Neuroradiology
- Neurology
- Neurosurgery
- Psychosomatic Medicine
- Pulmonary/Critical Care Medicine
- Rheumatology
- Surgical Critical Care
- Surgical Oncology

Hematology-Oncology Program
- Shared program with UCLA Olive View, a county hospital in California’s San Fernando Valley
- 8 fellows total in the 3 year program
- 6 fellows at one time in Olive View and 2 at our institution
- 4 full-time faculty transplant physicians
- Over 40 affiliated hem-onc physicians
Background

- Currently, the hospital has a floor dedicated to cancer patients.
- Average 15-30 patients covered by housestaff (10-20 average on our "service" with others being patients of private practice physicians.
- Typical patient list: 7 transplants, 3 leukemia, 3 lymphoma, 3 other hem. malignancy, 1 colon, 1 lung, 1 breast.
- The housestaff taking care of these floor patients includes:
  - three interns
  - one hematology-oncology fellow.
- Consult service comprising:
  - fellow
  - Intern +/- resident.

Objective

- the development of a monthly lecture series for housestaff rotating on a hematology-oncology rotation that would focus on three key areas:
  - a) What housestaff need to know to manage the patients on the hematology-oncology service
  - b) What housestaff are most likely to encounter in the practice of medicine, regardless of eventual subspecialty field.
  - c) What housestaff need to know for American Board of Internal Medicine exams.

Methods

- Topics chosen based on pertinence
  - BMT
  - Leukemia
  - Lymphoma
  - Myeloma
  - Coagulation
  - Pain Management/Psychosocial
  - MDS/MDS/Other Hem abnormalities
  - Breast Cancer
  - Lung Cancer
  - Colon Cancer
  - Gynecological Malignancies
  - Radiation Oncology

Methods

- Potential speakers
  - Full-time faculty
  - Private Practice Physicians affiliated with Cancer Center
- Emails and or phone calls placed
- Announcement made in division meetings
- Scheduling coordinated
- Lectures held in cancer ward conference room, via dry eraser board or power point on laptop
Questions and Answers

- Test questions developed for housestaff
- Geared toward data pertinent for boards
- and for caring for patients on floor
- Question origins:
  - MKSAP
  - MedStudy
  - Other textbook questions
  - Completely Original
  - Other

Sample Question

Mr. Thompson is a 25 year-old man diagnosed with Hodgkin's Disease stage 1b. He received mantle cell radiation only without chemotherapy. He is in remission and doing well 10 years out from therapy diagnosis. Which of the following is a possible long-term complication of his mantle radiation therapy?

- a) Upper extremity paresthesia
- b) Testicular carcinoma
- c) Increased incidence of AML
- d) Early onset coronary artery disease
- e) Hyperthyroidism

Sample Question

A 51 year-old man had diffuse large B-cell lymphoma 4 years ago. He was feeling well until recently when he noted nodes in his neck and had night sweats. Biopsy of the node confirmed a recurrence of his lymphoma. PET-CT revealed disease throughout the body. You would now consider:

- a) RCHOP
- b) HLA-identical sibling allogeneic stem cell transplant
- c) RICE followed by High-dose chem., with auto. stem cell transplant
- d) Radiation

Sample Question

A 32 year-old woman is evaluated because of malaise, tinnitus, and fever. Her symptoms have been present intermittently for approximately 10 days. Medical history is unremarkable. On physical examination, her temperature is 37.4°C (100.3° F). Pallor and conjunctivae are noted, and occasional petechiae are present over her lower extremities.

Laboratory studies:
- Hemoglobin 7.9 g/dL
- Reticulocyte count 0.5%
- Leukocyte count 8000/uL
- Platelet count 12,000/uL
- Prothrombin time Normal
- Activated partial thromboplastin time Normal
- D-dimers 0.5 ug/mL
- Her peripheral blood smear is shown:

Question and Answer Choices

Which of the following is the most appropriate therapy for this patient?

- a) Administration of intravenous fluids and broad-spectrum antibiotics
- b) Infusion of fresh frozen plasma
- c) Administration of six units of pooled platelets
- d) Administration of intravenous gamma globulin
- e) Plasma exchange with fresh frozen plasma
Results

- Overall feedback from housestaff was positive for the lecture series.
- The two conditions affecting optimal success of the program concerned:
  - scheduling, including intern and fellow schedules as they relate to rounds and housestaff clinics.
  - availability of when speakers could lecture and recruitment of speakers appropriate to the relevant topics.
- Repeating the topics every month proved challenging for finding lecturing participants.

Test Questions

- Same test questions at start of rotation were given at end.
- Results from 1st 5 months:
  - Pretest: 13.6/20 questions correct
  - Posttest: 17.1/20 questions correct
- No statistically significant difference. Reasons?
  - Sample size not large enough
  - Questions can be written better
  - Certain questions geared more towards fellow level.

Evolution of the Course

- Initially, attempts were made to have various speakers talk about topics.
- Scheduling conflicts would develop for both housestaff and attendings.
- Patient issues would develop.
- One primary lecturer on some relevant topics with occasional talks from pain management/rehab and rad-onc.

Next Steps

- The creation of a slide series.
- This would allow the ward attending of the month to lead the discussions.
- Handouts and syllabus (MSKCC).
- Streamlining and choosing better questions and original questions.
- Possible expansion to nursing, pharmacy personnel, clinical research personnel.

Conclusion

- A didactic lecture series is an important aspect of hematology-oncology education for housestaff.
- Repeating lectures every month is a challenge for several reasons. Possible interventions in the future may include:
  - a) Focusing lecturing duties to full-time faculty, with an emphasis on faculty currently on service.
  - b) Creating power point presentations and handouts on file for use by multiple people so that rotating faculty may use these materials for talks.
  - c) Statistical analysis of scores from pre-rotation and post-rotation exams.

Conclusion

- Cedars-Sinai Medical Center is a large, tertiary-care facility and is a model of a mixed academic-private practice teaching hospital.
- Implementation of a hematology-oncology lecture series for housestaff at other similar institutions is an achievable, workable goal and may directly improve patient care by improving housestaff knowledge.
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- BMT (and other Hematological Malignancies)
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  - Lung Cancer – Ron Natale
  - Breast Cancer – William Audeh, Dorothy Park
  - Radiation Oncology – Behrooz Halimian
  - Colon Cancer – Marina Vaysbund
  - Lymphoma – Fred Rosenfelt
  - Myeloma – Robert Vescio
  - Coagulation – Oana Tchemaaintchosouk
  - Pain/Psychosocial Tom Kerthard, Aviv Asher

Questions?

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