



Department of Radiation Oncology



WINTER 2019

In this Issue:

Welcoming New Faculty

Enhancing Patient Experience

Awards and Recognition

Grant Highlights

Clinical Impacts

ASTRO and RTC 2018

Department Instagram

Message From the Chair

Kenneth Rosenzweig, MD, Professor and Chair,
Department of Radiation Oncology

I hope everyone is off to a happy and healthy start to 2019. This year will be a groundbreaking year for the Department of Radiation Oncology at the Mount Sinai Health System.

Early 2019, the New York Proton Center, of which Mount Sinai is one of the three founding members, is scheduled to treat its first patient. The center is located on 126th Street between Second and Third avenues, a quick trip from The Mount Sinai Hospital. This will be the first proton center to be opened in New York State, and Mount Sinai physicians will be on site caring for patients who need this specialized form of radiation therapy.

Additionally, Mount Sinai continues to perform important research in all aspects of cancer care. You can read about some of our work in this newsletter. We also highlight some of the awards our Department members have received, including one from the Association of Community Cancer Centers honoring our palliative care program, the only radiation oncology program the association recognized this year.

Welcoming New Faculty



Pinaki R. Dutta, MD, PhD, is the Director of Radiation Oncology at Mount Sinai West. He treats a wide variety of cancers, specializing in head and neck, lung, and gastrointestinal cancers. Dr. Dutta uses advanced radiation techniques to treat tumors located near critical organs to increase the amount of radiation to the tumor and reduce the amount that reaches nearby healthy tissues. These include intensity-modulated radiation therapy, image-guided radiation therapy, 3D conformal radiation therapy, and stereotactic radiosurgery.

Dr. Dutta graduated from Johns Hopkins University and received his medical and doctoral degrees from the University of Maryland School of Medicine. He was chief resident at the University of Pennsylvania School of Medicine from 2007 to 2009 before joining Memorial Sloan Kettering Cancer Center in 2009. During his nine years at Sloan Kettering, Dr. Dutta maintained an active clinic where he treated more than 400 patients each year. In addition, he led research projects on head and neck cancers and published on topics such as optimizing management of post-operative oral cavity cancers.

Audrey Saitta, MD, is the new Director of Regional Operations in the Department of Radiation Oncology. With more than two decades of experience, Dr. Saitta is a leading cancer care expert with a specific interest in breast cancer, women's health, and palliative care. Prior to joining Mount Sinai Health System, Dr. Saitta was Senior Vice President and Chair of the Department of Radiation Oncology at NYU Lutheran Medical Center. She served as the Service Chief of the NYU Langone Hospital–Brooklyn Radiation Oncology Department and was the Chief of Radiation Oncology at the Brooklyn Campus of the VA NY Harbor Healthcare System.

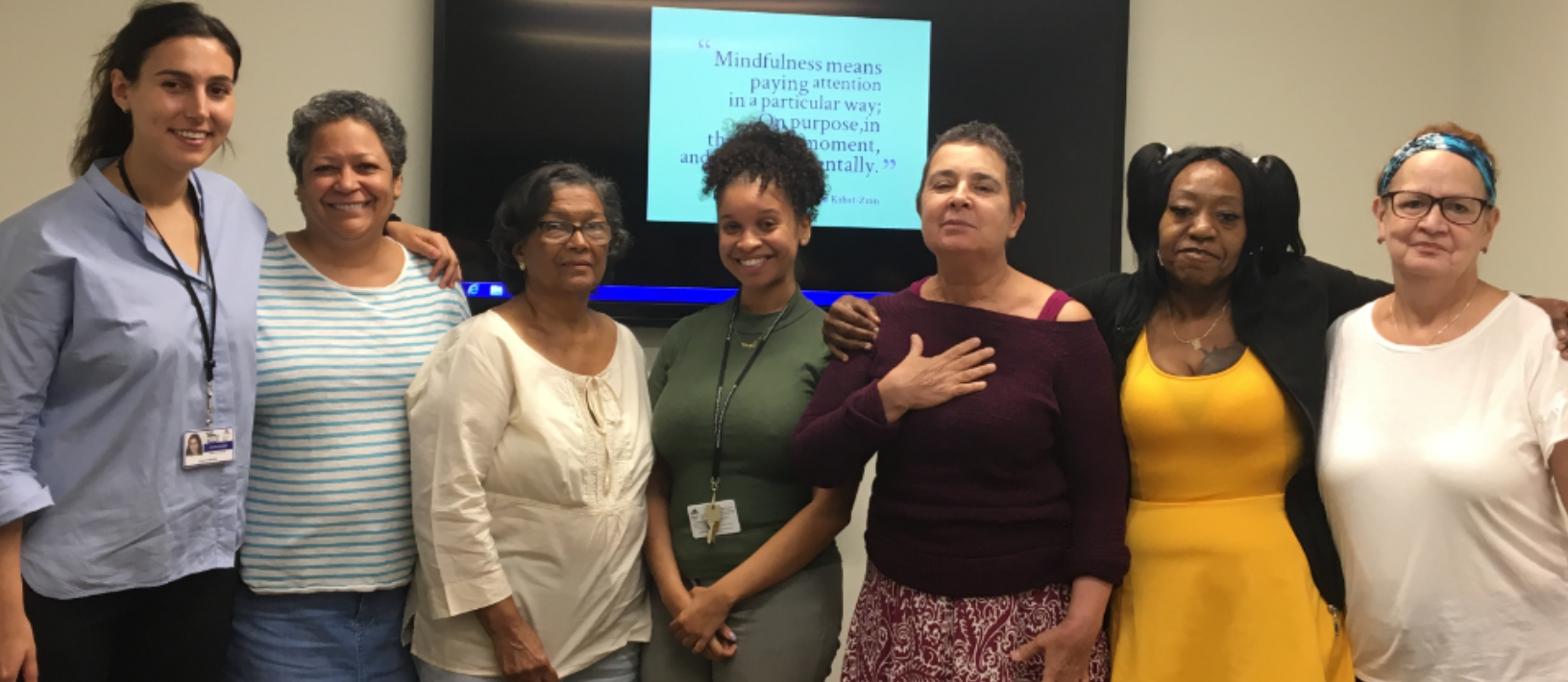


Dr. Saitta comes with a wealth of experience in clinical practice as well as an administrative background. She received her medical degree with honors from SUNY Downstate College of Medicine, and a Bachelor of Science degree in Biology from St. John's University, where she graduated summa cum laude. Dr. Saitta was born in Bologna, Italy, and speaks fluent Italian. She has coordinated multiple outreach programs including Relay for life, Cancer Survivors Day, the Look Good, Feel Better Program, and Think Pink Day for breast cancer awareness.



Zahra Ghiassi-Nejad, MD, PhD, is a radiation oncologist at The Mount Sinai Hospital. She specializes in treating GYN, GI, and soft tissue malignancies. Dr. Ghiassi-Nejad completed her training as a physician-scientist at the Icahn School of Medicine at Mount Sinai in 2013. Her graduate work focused on identifying critical pathways in hepatic fibrogenesis and the role of autophagy in fueling stellate cell activation. She completed her internship and residency in radiation oncology in 2018 and served as chief resident from 2017-2018.

Dr. Ghiassi-Nejad's research interests include identifying optimal strategies for combining immunotherapy and radiation to improve patient outcomes, as well as developing strategies to reduce normal tissue toxicity.



Enhancing Patient Experience

MSH Summer Wellness Program

In the summer of 2018, The Mount Sinai Hospital's Radiation Oncology Department hosted its first Summer Wellness Program—a four-week experience that promoted relaxation, creativity, and healthy living. The series was open to both patients in active treatment or post-treatment, as well as their caregivers.

Rebecca Kelly from The Creative Center led the first workshop titled Baubles, Buttons and Beads. Participants had the opportunity to create a piece of jewelry while socializing and enjoying refreshments. At our Chair Yoga and Mindfulness workshop, led by Eva Berlin—a certified yoga therapist and a student at the Icahn School of Medicine at Mount Sinai—students, patients, and caregivers were introduced to meditation and relaxation exercises including simple breathing techniques, guided imagery, and gentle body movements.

Patients and caregivers also learned how to use writing to express thoughts and feelings about their cancer experience and shared their stories with one another. The last workshop was led by Paula Occiano RD, CDN, CSO, and Melissa Fraser, RD, nutritionists at the Ruttenberg Treatment Center, who led a discussion about nutrition before, during, and after radiation therapy.

This wellness series gave patients and caregivers the opportunity to come together and learn creative coping strategies. "I enjoyed learning yoga – it will be very helpful in my recovery," one patient commented. Others expressed how much they enjoyed the series and look forward to future programming.

Many thanks to all of the workshop facilitators for generously volunteering and sharing their expertise.



“

I enjoyed learning yoga - it will be very helpful in my recovery

”

Ring This Bell

Mount Sinai West was recently highlighted in *Inside Mount Sinai*, the newsletter for the Mount Sinai Health System, for the significant impact its patient bell has had on patients and staff.

Patients in our departments may be on treatment many times for multiple weeks—a physically and emotionally trying experience. When our patients finish treatment, it is certainly worthy of a celebration. As patients finish their last treatment, they can proudly ring a ceremonial bell at Mount Sinai West and The Mount Sinai Hospital. This celebration can include the radiation therapists, radiation oncologist, nurses and supportive team members who cared for them during the course of their treatment. A plaque reads “Ring this bell three times well, its toll to clearly say, my treatment’s done this course is run and I am on my way!”



At Mount Sinai West, patients also receive an Achievement of Excellence certificate signed by their radiation therapy team. “It is often an emotional moment and a feeling of immense relief”, says Natosha Houston, Technical Supervisor, Radiation Oncology. “It is also rewarding for our staff to celebrate this significant milestone with patients as they move onto their next step in treatment or return to their daily routine.”

Awards and Recognition

ACCC Innovator's Award

The Department of Radiation Oncology was awarded the Association of Community Cancer Center’s 2018 Innovator Award for its program, Improving Care of Advanced Cancer Patients with a Dedicated Palliative Radiotherapy Team. This program developed a specialized service model that focuses on patient quality of life, rather than the traditional disease-focused model for radiation oncology.

Under the leadership of Kavita Dharmarajan, MD, MSc, the Palliative Radiation Oncology Consult (PROC) resulted in significant savings per hospitalized radiation patient, increased the use of shorter but equally efficacious radiation courses across numerous patient populations, and produced a 7 percent increase in pain improvement.

We congratulate Dr. Dharmarajan and the palliative care team.



Mount Sinai Health System & Tisch Cancer Institute, Department of Radiation Oncology

Improving Care of Advanced Cancer Patients with a Dedicated Palliative Radiotherapy Team

Cullman Family Award for Excellence in Physician Communication



Award recipients: Vishal Gupta, MD (left), Kenneth Rosenzweig, MD (middle), Michael Buckstein, MD, PhD (right)

We are proud to congratulate three of our radiation oncologists as recipients of the 2018 Cullman Family Award for Excellence in Physician Communication. Working together and communication are considered key drivers in influencing how patients perceive their quality of care.

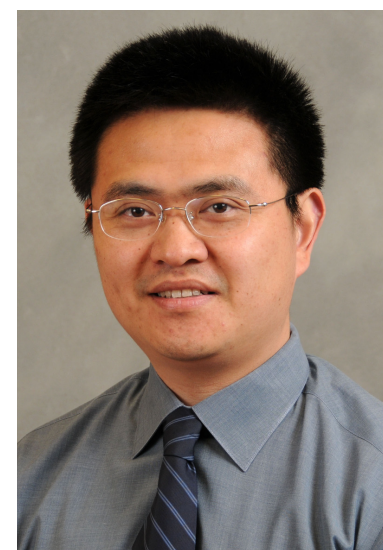
Kenneth Rosenzweig, MD, Michael Buckstein, MD, PhD, and Vishal Gupta, MD, were ranked in the top one percent nationally in provider communication for 2017 as measured by the Centers for Medicare & Medicaid Services' Clinician and Group Consumer Assessment of Healthcare Providers and Systems (CGCAHPS) patient experience survey.

Congratulations to our recipients on this achievement.

4D Technology Development Program Award

As part of the annual Mount Sinai Innovation Awards, Yading Yuan, PhD, has received the 4D Technology Development Program Award for his project, Deep Planning: Knowledge-based automated radiotherapy planning via deep learning. The awards highlight researchers, students, faculty, and investigators who have made significant, creative, and noteworthy strides in science, research, technology, and entrepreneurship.

Dr. Yuan's work will greatly improve planning, quality, and speed using artificial intelligence.



AAPI Annual Distinguished Physician Award

Manjeet Chadha, MD, was awarded the Distinguished Physician Award at the 2018 American Association of Physicians of Indian Origin Annual Gala. She is now among an elite group to receive this recognition for exceptional contributions to medicine, specifically the field of radiation oncology.

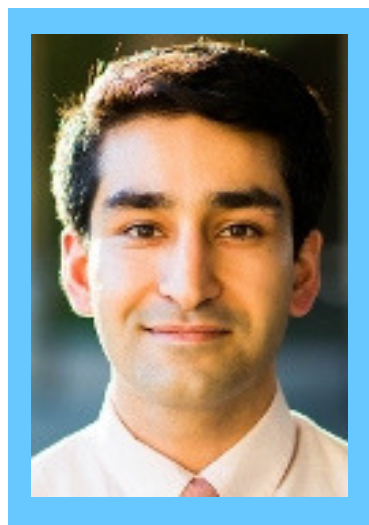
Dr. Chadha Appointed to NRG Oncology Breast Committee

In addition, Dr. Chadha has been appointed a three-year term to the NRG Oncology Breast Committee. This appointment is given to physicians with expertise in breast cancer research and treatments as well as participation in NRG breast cancer trials.



Grant Highlights

Jalal Ahmed, MD, PhD, Awarded Lung Cancer Research Foundation Grant



We congratulate Jalal Ahmed, MD, PhD, for receiving a Lung Cancer Research Foundation grant for his program, Targeting the tumor microenvironment to advance CAR T cell therapy for lung cancer, and we look forward to his work ahead.

The foundation is the pre-eminent nonprofit organization on funding innovative, high-reward research with the potential to extend survival and improve quality of life for people with lung cancer. The foundation awards research grants to 13 investigators around the world for innovative research focused on the prevention, diagnosis, and treatment of lung cancer. In 2018, the foundation received a record-breaking 201 grant applications, representing 116 institutions and 21 countries.

ARRT, ASRT Professional Growth and Education Grant

Maria Dimopoulos, MBA, RT(T), received the Advancing Your Profession: Education and Professional Growth Grant, sponsored by the American Registry of Radiologic Technologists (ARRT) and administered by the ASRT Foundation. She will use this award to further education as a key step towards establishing Joint Review Committee on Education in Radiologic Technology (JRCERT) accreditation for the Mount Sinai Center for Radiation Therapy Education at Stony Brook University.

We look forward to her continued achievements and the success of the radiation therapy program.



Clinical Impacts

Prostate Brachytherapy Workshop

A real-time prostate brachytherapy workshop was held at the Icahn School of Medicine at Mount Sinai on November 3, 2018, organized by Richard Stock, MD, the course director. Radiation oncologists, urologists, medical physicists, and physicians were educated and trained on real-time ultrasound guided techniques for performing low dose rate (LDR) prostate brachytherapy. Participants learned to use a Mick applicator, an ultrasound unit, treatment planning software, and ultrasound probe stepper to implant loose LDR seeds compatible with real-time planning.

This hands-on workshop was made possible by these Mount Sinai faculty: Richard Stock, MD; Nelson Stone, MD; Robert Stewart, MD; Yeh-Chi Lo, PhD; Ming Chao, PhD; Vishruta Dumane, PhD; Ren-Dih Sheu, PhD; Amber Tseng, MS; Junyi Xia, PhD; and Yading Yuan, PhD. We thank you for your work and innovation.



Interpreters on Wheels

In the fall of 2018, all Mount Sinai Radiation Oncology departments received new clinical buddies, otherwise known as interpreters on wheels. These four-foot-tall, rolling devices provide on-demand video and audio interpretation of 240 languages, all at the touch of a button. A patient can point to the language name (in both English and the language in question) on the iPad to start. If patients cannot read, their language can be found by the country of origin. Video of an interpreter appears on the screen, and then the face-to-face dialogue can begin.

In addition to spoken languages, our clinical buddies—named Polly, Hector, Robyn, and Flo—can interpret American Sign Language. We are proud of this access to total communication we provide and encourage everyone to use these interpreters on wheels.



ASTRO and RTC 2018

The Mount Sinai Radiation Oncology Department had a significant presence at the 2018 American Society for Radiation Oncology (ASTRO) Convention and Radiation Therapy Conference in San Antonio. Our oral and poster presenters reflected the dedication, creativity, and drive of our staff. We congratulate our team on their achievements:

Oral Presentations

- Kimberly Smith, MHA: Voice Enabling MOSAIQ and other Clinical Efficiencies at Mount Sinai
- Kavita Dharmarajan, MD: Palliative Care Poster Discussion
- Clodagh Starrs, RT(T): Individualized Care for Survivors of Abuse, Clodagh was honored as a keynote speaker for the conference
- Fatima Do, RT(T) and Clodagh Starrs RT(T): Modified Protocol for DIBH SBRT Liver Cancer



Clodagh Starrs, RT(T)

- Maria Dimopoulos, MBA, RT(T): Speechless: Preparing Students to Communicate with Patients Undergoing Radiation Therapy
- Clifford Temple, RT(T): Best Practices for SBRT Lung Cancer Treatment
- Danielle McDonagh, MS, RT(T): Transgender Patient Care in Radiation Oncology
- Kenneth Rosenzweig, MD: Challenging Cases in Lung Cancer: Oligometastatic Disease
- William Su, BA: Long Term Outcomes in Patients with Recurrent HPV Related Oropharyngeal Cancer
- Vishal Gupta, MD: Latest Advances in Nasopharyngeal Carcinoma
- Eric Lehrer, MD: Treatment of Brain Metastases with Stereotactic Radiosurgery and Immune Checkpoint Inhibitors
- Kavita Dharmarajan, MD, MSc: Use of Advanced Technologies in Palliative Care: A Brave New World or a Costly Mistake?
- Sonam Sharma, MD: Effect of Introducing a Default Order Option on Unnecessary Daily Image Guidance during Palliative Radiotherapy: A Cluster Randomized Stepped-Wedge Clinical Trial
- Vishruta Dumane, PhD: Training and Evaluation of a Knowledge-based Planning System for Treatment Planning of Malignant Pleural Mesothelioma to the Intact Lungs
- Heather McGee, MD, PhD: Characterization of the Immune Exhaustion Phenotype in Murine Bladder Cancer Following Radiation



Clifford Temple, RT(T)



Danielle McDonagh, MS, RT(T)



Vishruta Dumane, PhD

Poster Presentations

- Jalal Ahmed, MD, PhD, Application of 18-F Fluciclovine PET/CT in Guiding Salvage Radiation Therapy for Recurrent Prostate Patients
- Camille Hardy, BS, Safety of Liver Stereotactic Body Radiation Therapy for Hepatocellular Carcinoma Following Transarterial Radioembolization vs. Transarterial Chemoembolization
- Stanislav Lazarev, MD, Stereotactic Body Radiation Therapy for Centrally Located Hepatocellular Carcinoma: Outcomes and Toxicities

- Stanislav Lazarev, MD: Intermediate-Term versus Longer-Term Androgen-Deprivation Therapy for High-Risk Prostate Cancer Treated with High Dose Radiation: 12-Year Outcomes Data
- Marcher Thompson, MD: Evaluation of Patient Characteristics, Treatment Decisions and Survival of Young Patients under the Age of 50 Diagnosed with Colorectal Carcinoma
- Shutao Wang, PhD: Focused Ultrasound Induced-Blood-Brain Barrier Opening in Post-Radiosurgery Mouse Brain for Locally-Enhanced Systemic Therapy
- Manjeet Chadha, MD: The Optimal Adjuvant Monotherapy in Older Patients with Hormone Receptor Positive Early Stage Breast Cancer is Breast Radiation Not Endocrine Therapy, Dr. Chadha's work will be featured in *Frontiers in Oncology* journal
- Oren Factor, MD: Rapid In-Field Failures Following Adjuvant Radiation for Buccal Squamous Cell Carcinoma
- Brianna Jones, MD: Predictors of Contralateral and Bilateral Lymph Node Metastases in Head and Neck Cancer: A Closer Look at the Ipsilateral neck
- Lucas Resende Salgado, MD, MPA: Concurrent Radiation and Biological Therapy is Safe in Multiple Myeloma
- Shutao Wang, PhD: Radiation Fractionation Regimen Selection for Palliation of Metastatic Multiple Myeloma in the Era of Biological Therapeutics
- Stanislav Lazarev, MD: Short Hypofractionated Radiotherapy in Palliation of Pediatric Malignancies: Outcomes and Toxicities
- Kathryn Marqueen, BA: Cost-Effectiveness Analysis of Selective Internal Radiation Therapy with Yttrium-90 Resin Microspheres Verses Sorafenib in Advanced Hepatocellular Carcinoma
- Greeshma Rajeev-Kumar, BS: Emotional Quality of Life Among Patients with Oropharyngeal Carcinoma Treated with Radiation Therapy
- Lucas Resende Salgado, MD, MPA: Biologic Subtypes as a Predictor of Local Control of Breast Cancer Brain Metastases after Stereotact
- William Smith, MD: Prolonged Opioid Dependence Following Post-Operative Head and Neck Radiation Therapy

Stanislav Lazarev, MD

Concurrent Radiation and Biological Therapy is Safe in Multiple Myeloma
 Lucas Resende Salgado MD MPA, Shutao Wang PhD, Avi Adler¹, Sanders Chang MD², Meng Ru MS¹, Erin Moshier MS¹, Kavita Dhamarajam MD MS¹, Stanislav Lazarev MD¹, Jay Hearn Cho MD PhD¹, Richard Bakit MD¹

¹Department of Radiation Oncology, Icahn School of Medicine at Mount Sinai, New York, NY, USA, ²Urology School of Medicine at Mount Sinai, New York, NY, USA, ³Harvard College, New York, NY, USA, ⁴Department of Population Health Science and Policy, Icahn School of Medicine at Mount Sinai, New York, NY, USA, ⁵Department of Hematology and Medical Oncology, Mount Sinai Hospital, New York, NY, USA.

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INTRODUCTION & OBJECTIVE

- The management of multiple myeloma (MM) has evolved in the modern era primarily owing to the increasing number of biological therapies.
- As agents are longer than our follow-up radiation is ever more important to the management of painful lytic lesions.
- In the modern era it remains unclear whether patients should continue to stop these biological agents while undergoing palliative radiation.
- The goal of this study is to evaluate the side effect profile of palliative radiation therapy while patients are concurrently treated with biological agents.

MATERIAL & METHODS

- We conducted a retrospective analysis of patients with multiple myeloma receiving RT to treat radiation from 2007 to 2017.
- A total of 130 patients and 278 treatment sites were included in this review.
- Patients had to be receiving a biological agent at least one month prior to start and up to one month post receiving radiation therapy.

RESULTS

- The median follow-up is 14 months and the mean OPSI score of all patients was 80.
- The cumulative treated site was the spine. 278 lesions were treated in total. Most lesions were treated with RT.
- The most common toxicities were:
 - Hematologic (26.6%)
 - Gastrointestinal (18.7%)
 - Fatigue (17.8%)
 - Pain (15.5%)
 - Skin (12.6%)
 - Neurologic (11.9%)
 - Respiratory (9.7%)
 - Infection (9.3%)
 - Endocrine (8.6%)
 - All other (24.5%)
- Biological agents had similar toxicity profiles.
- No significant difference in incidence of acute (PR +1.38, 95% CI: [0.85, 2.25], p = 0.27) or subacute (PR +2.05, 95% CI: [0.45, 3.67], p = 0.02) toxicity was found between patients with or without biological agents concurrently with RT. (Table 4)
- No significant difference was found in reduction in lab values between patients with or without biological agents concurrently with RT for WBC (p = 0.006, PR 3.0 = 0.78) or Hct (p = 0.084).
- Receiving the biological agents concurrently with radiation therapy did not predispose these patients to having lower white blood cells, hemoglobin or platelet counts compared to patients receiving RT alone.

CONCLUSION

- Our data suggests that the concurrent use of biological agents for treatment of MM concurrent with palliative radiation does not portend upon these patients a worse side effect profile.
- Biological agents are key in managing these patients.
- We have shown here that concurrent systemic therapy is safe when not used to be stopped during palliative radiation for treatment of MM lytic lesions.

Prolonged Opioid Dependence Following Post-Operative Head and Neck Radiation Therapy
 William H. Smith MD¹, Bethann Scarborough MD², Brett Miles DDS MD¹, Vishal Suri¹, Vishal Gupta MD¹, and Richard L. Bakit MD¹

¹Dept of Radiation Oncology, ²Geriatrics and Palliative Medicine, ³Otolaryngology, ⁴Icahn School of Medicine at Mount Sinai, New York, NY

INTRODUCTION

- Patients undergoing radiation therapy (RT) for head and neck cancer frequently suffer significant recurrences requiring opioid management.
- Recurrence is a dramatic increase in the rates of death due to opioid overdose in the US, a leading concern, over prescribing practices and the rise of opioid dependence.
- As high cancer increasingly occurs in younger patients with longer expected survival, the risks of opioid use are becoming more recognized in this population.
- As this era the risk of prolonged opioid dependence among high cancer patients undergoing RT remains poorly characterized, particularly in the post-operative setting.
- Better knowledge regarding the risk of opioid dependence is required for radiation oncologists to effectively counsel patients and manage treatment related morbidity/safety.

MATERIAL & METHODS

- We retrospectively identified patients through our IRB approved NEMU Database who had undergone post-operative curative intent RT for patients RT between Jan 2013 – Sep 2017.
- Included patients had chronic pain requiring opioid prior to RT, disease recurrence before endpoints, anti-cancer treatment failure endpoints, incomplete information, or were lost to follow-up.
- Endpoints included persistent opioid use at 3-months and 6-months following completion of RT. This was defined dichotomously and was determined by reviewing medications orders for ambulatory opioid prescriptions placed in our EMR and by reviewing follow-up notes.
- Univariate and multivariate logistic regression were performed to determine which factors were predictive of prolonged opioid use.

RESULTS

- 118 patients were included in the study.
- 58% (69/118) patients had persistent opioid use at 3 months and 54% (64/118) patients had persistent opioid use at 6 months.
- Factors predictive of persistent opioid use at 3 months included:
 - Age
 - Sex
 - Race
 - Insurance
 - History of opioid use
 - History of depression
 - History of anxiety
 - History of substance use
 - History of chronic pain
 - History of chronic disease
 - History of chronic medication
 - History of chronic surgery
 - History of chronic hospitalization
 - History of chronic admission
 - History of chronic discharge
 - History of chronic death
- Factors predictive of persistent opioid use at 6 months included:
 - Age
 - Sex
 - Race
 - Insurance
 - History of opioid use
 - History of depression
 - History of anxiety
 - History of substance use
 - History of chronic pain
 - History of chronic disease
 - History of chronic medication
 - History of chronic surgery
 - History of chronic hospitalization
 - History of chronic admission
 - History of chronic discharge
 - History of chronic death

SUMMARY / CONCLUSION

- Our data suggests that the concurrent use of biological agents for treatment of MM concurrent with palliative radiation does not portend upon these patients a worse side effect profile.
- Biological agents are key in managing these patients.
- We have shown here that concurrent systemic therapy is safe when not used to be stopped during palliative radiation for treatment of MM lytic lesions.



ROI 5K

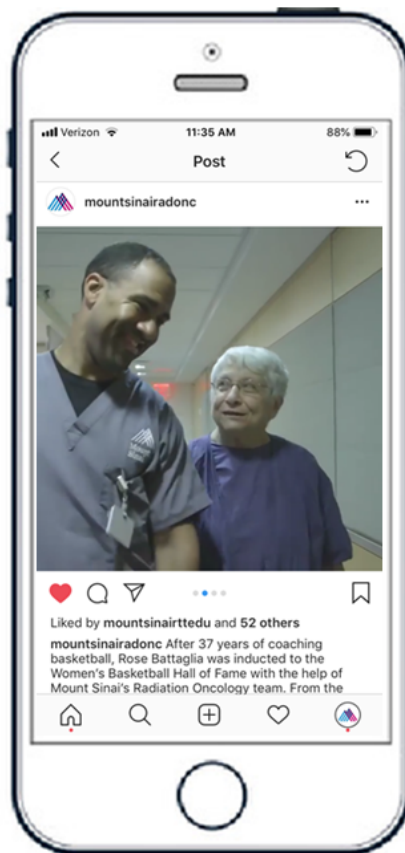
New York Rad Runners

In addition to the oral and poster presentations, the Department of Radiation Oncology also raised money for the Radiation Oncology Institute and participated in the 5K Run for the Future. The Mount Sinai New York Rad Runners enjoyed racing the San Antonio River Walk before gearing up for their presentations.

Follow us on Instagram



Search for the handles @MountSinaiRadOnc and @MountSinaiRTTedu



Interested in joining our social media committee?
Take a picture we should post?

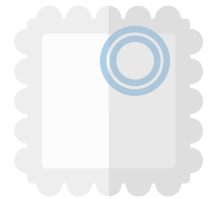
Please contact:
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Thank you!



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Department of Radiation Oncology

Winter 2019 Newsletter

In this Issue:

Welcoming New Faculty // Enhancing Patient Experience // Awards and Recognition // Grant Highlights // Clinical Impacts // ASTRO and RTC 2018 // Department Instagram

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