



Research Article

Volume 30 Issue 2 - October 2025  
DOI: 10.19080/CTOIJ.2025.30.556282

Cancer Ther Oncol Int J

Copyright © All rights are reserved by Omer Sager

# Evaluation of Tumor Size Following Neoadjuvant Treatment in Recurrent Cecal Cancer



Omer Sager\*, Selcuk Demiral, Ferrat Dincoglan and Murat Beyzadeoglu

Department of Radiation Oncology, University of Health Sciences, Gulhane Medical Faculty, Ankara, Turkey

**Submission:** September 17, 2025; **Published:** October 07, 2025

**Corresponding author:** Omer Sager, Department of Radiation Oncology; University of Health Sciences, Gulhane Medical Faculty, Ankara, Turkey

## Abstract

**Objective:** Recurrent cecal cancers pose significant therapeutic challenges due to prior treatment history, anatomical constraints, and risk of progression. In selected patients, neoadjuvant systemic therapy may be considered to reduce tumor burden, enhance surgical resectability, and improve oncologic outcomes. This study aimed to evaluate tumor size changes following neoadjuvant systemic therapy in patients with recurrent cecal cancer.

**Materials and methods:** To this study, patients with confirmed recurrent cecal adenocarcinoma who underwent neoadjuvant therapy and had both baseline and follow-up imaging data were reviewed. All patients had recurrent cecal cancer and received neoadjuvant therapy with available imaging scans before and after neoadjuvant therapy. Tumor size measurements were extracted from imaging reports and/or direct image review. Comparative analysis has been conducted to assess response. Clinical decision-making following neoadjuvant treatment was based on multidisciplinary evaluation.

**Results:** Patients had undergone prior management for primary cecal cancer. Upon recurrence, neoadjuvant therapy was initiated as part of individualized salvage treatment. Tumor size changes were analyzed using imaging before and after neoadjuvant therapy. As a result, tumor shrinkage was observed after neoadjuvant treatment.

**Conclusion:** Multidisciplinary approach should be prioritized for management of recurrent cecal cancers. While our findings might indicate benefit of neoadjuvant treatment in the setting of recurrent cecal cancer, further studies are needed to shed light on this critical issue.

**Keywords:** Cecal Cancer; Recurrence; Neoadjuvant Therapy; Tumor Size; Treatment Response

**Abbreviations:** SBRT: Stereotactic Body Radiotherapy; IGRT: Image-Guided Radiotherapy; ART: Adaptive Radiotherapy

## Introduction

Cecal cancers represent a subset of colorectal malignancies often diagnosed at earlier stages, but recurrence-particularly locoregional or peritoneal-remains a clinical concern in patients with prior surgery or chemotherapy [1-7]. Management of recurrent disease is more complex, requiring individualized strategies and input from a multidisciplinary team.

For recurrent cecal cancers, neoadjuvant systemic therapy may be considered to:

- Reduce tumor volume,
- Downstage disease,

- Facilitate complete surgical resection
- And improve local control.

In selected patients, systemic therapy could be a key component of salvage treatment. From the perspective of radiation oncology, advances in radiotherapy, including adaptive radiotherapy (ART), image-guided radiotherapy (IGRT) and several other accomplishments have enabled a more nuanced approach to recurrent gastrointestinal malignancies as well as several other cancers [8-106]. This study investigates tumor size changes in patients with recurrent cecal cancers who underwent neoadjuvant therapy.

## Materials and Methods

To this study, patients with confirmed recurrent cecal adenocarcinoma who underwent neoadjuvant therapy and had both baseline and follow-up imaging data were reviewed. All patients had recurrent cecal cancer and received neoadjuvant therapy with available imaging scans before and after neoadjuvant therapy. Tumor size measurements were extracted from imaging reports and/or direct image review. Comparative analysis has been conducted to assess response. Clinical decision-making following neoadjuvant treatment was based on multidisciplinary evaluation.

## Results

Patients were selected based on availability of imaging and treatment data. All had undergone prior management for primary cecal cancer. Upon recurrence, neoadjuvant therapy was initiated as part of individualized salvage treatment. Tumor size changes were analyzed using imaging before and after neoadjuvant therapy. As a result, tumor shrinkage was observed after neoadjuvant treatment. These findings were used in decision making for further management and subsequent treatment strategy.

## Discussion

Cecal cancers, a subset of colorectal malignancies, are often diagnosed at earlier stages; however, recurrence-particularly in the locoregional or peritoneal regions-remains a significant clinical challenge in patients previously treated with surgery or chemotherapy [1-7]. The management of recurrent disease is inherently more complex and necessitates personalized treatment strategies developed through multidisciplinary collaboration. In appropriately selected cases, neoadjuvant systemic therapy may play a critical role by reducing tumor burden, downstaging the disease, enhancing the feasibility of complete surgical resection, and improving local disease control.

As a potential cornerstone of salvage treatment, systemic therapy can significantly influence outcomes. From a radiation oncology standpoint, recent advancements-such as adaptive radiotherapy (ART), image-guided radiotherapy (IGRT), and other state-of-the-art modalities-have enabled more refined and individualized approaches for managing recurrent gastrointestinal and other malignancies [8-100]. This study aims to evaluate tumor size changes following neoadjuvant therapy in patients with recurrent cecal cancer. For this study, we retrospectively reviewed patients with confirmed recurrent cecal adenocarcinoma who received neoadjuvant therapy and had accessible imaging data both before and after treatment.

All patients met inclusion criteria based on the availability of baseline and follow-up scans. Tumor sizes were obtained from radiology reports and/or through direct evaluation of imaging studies. A comparative analysis was performed to assess

treatment response. Subsequent clinical decisions were guided by multidisciplinary team discussions and individualized patient assessments. Patients were selected based on the availability of both imaging and treatment records. All individuals had previously undergone treatment for primary cecal cancer. Following disease recurrence, neoadjuvant therapy was administered as part of a personalized salvage treatment approach. Tumor size changes were assessed through comparative analysis of pre- and post-treatment imaging. Reduction in tumor size was observed in response to neoadjuvant therapy.

These results informed multidisciplinary discussions and played a key role in shaping subsequent management strategies. Management of recurrent colorectal cancer, particularly in the cecum, presents unique challenges due to prior treatment exposure and the anatomical complexity of the right colon and peritoneal space. While surgery remains the cornerstone of treatment for localized recurrence, neoadjuvant systemic therapy is increasingly considered in cases of bulky or marginally resectable disease. Our analysis demonstrated that selected patients with recurrent cecal cancer may benefit from neoadjuvant treatment administered prior to further therapy. Tumor shrinkage on imaging scans may provide valuable insight into treatment sensitivity and may help identify candidates for successful further management.

Modern radiation oncology technologies, including IGRT, IMRT, stereotactic RT, and ART, have expanded salvage options for recurrent GI malignancies, as well as for many other indications [8-106]. Sophisticated imaging techniques and advanced treatment planning strategies allow precise targeting of residual disease after neoadjuvant therapy, potentially reducing toxicity of management whilst maintaining local control. Multidisciplinary approach should be prioritized for management of recurrent cecal cancers. While our findings might indicate benefit of neoadjuvant treatment in the setting of recurrent cecal cancer, further studies are needed to shed light on this critical issue.

## References

1. Iwai T, Hotta K, Imai K, Yamaguchi Y, Ito S, et al. (2016) Early cecal cancer adjacent to the appendiceal orifice successfully treated by endoscopic submucosal dissection. *Gastrointest Endosc* 83(1): 260-261.
2. Wu X, Zhou S, Zhou X, Xu X, Wang L, et al. (2022) Literature review of imaging, pathological diagnosis, and outcomes of metachronous lung and pancreatic metastasis of cecal cancer. *World J Surg Oncol* 20(1): 341.
3. Katayama R, Aoki T, Tomioka K, Tashiro Y, Fujimasa K, et al. (2021) A rare case of synchronous appendiceal and cecal cancer. *Clin J Gastroenterol* 14(5): 1443-1447.
4. Montero S, Lee H (2024) Robotic Right Colectomy for Cecal Cancer in a Patient with a History of Renal Transplantation. *Dis Colon Rectum* 67(9): e1542-e1543.
5. Yu L, Liu Z, Chen Z, Wang X, Xu Z, et al. (2023) Pathways of lymph node metastasis and prognosis after right hemicolectomy for cecal cancer: results from a retrospective single center. *World J Surg Oncol* 21(1): 281.

6. Teraishi F, Jikuhara A, Ogawa R, Fujiwara T (2022) Surgical Resection for Local and Lateral Lymph Node Recurrence of MSI-high Cecal Cancer with the BRAF V600E Mutation. *Acta Med Okayama* 76(5): 605-608.
7. Xie X, Zhou Z, Song Y, Wang W, Dang C, Zhang H (2018) Differences between carcinoma of the cecum and ascending colon: Evidence based on clinical and embryological data. *Int J Oncol* 53(1): 87-98.
8. Sager O, Dincoglan F, Demiral S, Uysal B, Gamsiz H, et al. (2023) Adaptive radiation therapy (art) for patients with limited-stage small cell lung cancer (LS-SCLC): A dosimetric evaluation. *Indian J Cancer* 60(1):140-147.
9. Gamsiz H, Sager O, Uysal B, Dincoglan F, Demiral S, et al. (2023) Outcomes of Sterotactic Body Radiotherapy (SBRT) for pelvic lymph node recurrences after adjuvant or primary radiotherapy for prostate cancer. *J Cancer Res Ther* 19(Suppl 2): S851-S856.
10. Uysal B, Gamsiz H, Sager O, Dincoglan F, Demiral S, et al. (2022) Comparative outcomes of short-term and long-term fractionation with temozolomide in older glioblastoma patients: Single-center experience. *J Cancer Res Ther* 18(6): 1610-1615.
11. Gamsiz H, Sager O, Uysal B, Dincoglan F, Demiral S, et al. (2022) Active breathing control guided stereotactic body ablative radiotherapy for management of liver metastases from colorectal cancer. *Acta Gastroenterol Belg* 85(3): 469-475.
12. Sager O, Dincoglan F, Demiral S, Uysal B, Gamsiz H, et al. (2022) Concise review of radiosurgery for contemporary management of pilocytic astrocytomas in children and adults. *World J Exp Med* 12(3): 36-43.
13. Sager O, Dincoglan F, Demiral S, Gamsiz H, Uysal B, et al. (2022) Optimal timing of thoracic irradiation for limited stage small cell lung cancer: Current evidence and future prospects. *World J Clin Oncol* 13(2): 116-124.
14. Demiral S, Sager O, Dincoglan F, Uysal B, Gamsiz H, et al. (2021) Evaluation of breathing-adapted radiation therapy for right-sided early stage breast cancer patients. *Indian J Cancer* 58(2): 195-200.
15. Sager O, Dincoglan F, Demiral S, Uysal B, Gamsiz H, et al. (2021) Omission of Radiation Therapy (RT) for Metaplastic Breast Cancer (MBC): A Review Article. *International Journal of Research Studies in Medical and Health Sciences* 6(1): 10-15.
16. Sager O, Dincoglan F, Demiral S, Uysal B, Gamsiz H, et al. (2021) Concise review of stereotactic irradiation for pediatric glial neoplasms: Current concepts and future directions. *World J Methodol* 11(3): 61-74.
17. Sager O, Dincoglan F, Demiral S, Uysal B, Gamsiz H, et al. (2020) Adaptive radiation therapy of breast cancer by repeated imaging during irradiation. *World J Radiol* 12(5): 68-75.
18. Sager O, Beyzadeoglu M, Dincoglan F, Demiral S, Gamsiz H, et al. (2020) Multimodality management of cavernous sinus meningiomas with less extensive surgery followed by subsequent irradiation: Implications for an improved toxicity profile. *J Surg Surgical Res* 6: 056-061.
19. Beyzadeoglu M, Sager O, Dincoglan F, Demiral S, Uysal B, et al. (2020) Single Fraction Stereotactic Radiosurgery (SRS) versus Fractionated Stereotactic Radiotherapy (FSRT) for Vestibular Schwannoma (VS). *J Surg Surgical Res* 6: 062-066.
20. Dincoglan F, Beyzadeoglu M, Sager O, Demiral S, Uysal B, et al. (2020) A Concise Review of Irradiation for Temporal Bone Chemodectomas (TBC). *Arch Otolaryngol Rhinol* 6: 016-020.
21. Sager O, Dincoglan F, Demiral S, Uysal B, Gamsiz H, et al. (2019) Utility of Molecular Imaging with 2-Deoxy-2-[Fluorine-18] Fluoro-D-Glucose Positron Emission Tomography (18F-FDG PET) for Small Cell Lung Cancer (SCLC): A Radiation Oncology Perspective. *Curr Radiopharm* 12(1): 4-10.
22. Dincoglan F, Sager O, Demiral S, Gamsiz H, Uysal B, et al. (2019) Fractionated stereotactic radiosurgery for locally recurrent brain metastases after failed stereotactic radiosurgery. *Indian J Cancer* 56(2): 151-156.
23. Sager O, Dincoglan F, Demiral S, Uysal B, Gamsiz H, et al. (2019) Breathing adapted radiation therapy for leukemia relapse in the breast: A case report. *World J Clin Oncol* 10(11): 369-374.
24. Dincoglan F, Sager O, Uysal B, Demiral S, Gamsiz H, et al. (2019) Evaluation of hypofractionated stereotactic radiotherapy (HFSRT) to the resection cavity after surgical resection of brain metastases: A single center experience. *Indian J Cancer* 56(3): 202-206.
25. Sager O, Dincoglan F, Uysal B, Demiral S, Gamsiz H, et al. (2018) Evaluation of adaptive radiotherapy (ART) by use of replanning the tumor bed boost with repeated computed tomography (CT) simulation after whole breast irradiation (WBI) for breast cancer patients having clinically evident seroma. *Jpn J Radiol* 36(6): 401-406.
26. Demiral S, Dincoglan F, Sager O, Uysal B, Gamsiz H, et al. (2018) Contemporary Management of Meningiomas with Radiosurgery. *Int J Radiol Imaging Technol* 80: 187-190.
27. Sager O, Dincoglan F, Uysal B, Demiral S, Gamsiz H, et al. (2017) Splenic Irradiation: A Concise Review of the Literature. *J App Hem Bl Tran* 1: 101.
28. Dincoglan F, Sager O, Demiral S, Uysal B, Gamsiz H, et al. (2017) Radiosurgery for recurrent glioblastoma: A review article. *Neurol Disord Therap* 1: 1-5.
29. Demiral S, Dincoglan F, Sager O, Gamsiz H, Uysal B, et al. (2016) Hypofractionated stereotactic radiotherapy (HFSRT) for who grade I anterior clinoid meningiomas (ACM). *Jpn J Radiol* 34(11): 730-737.
30. Dincoglan F, Beyzadeoglu M, Sager O, Demiral S, Gamsiz H, et al. (2015) Management of patients with recurrent glioblastoma using hypofractionated stereotactic radiotherapy. *Tumori* 101: 179-184.
31. Gamsiz H, Beyzadeoglu M, Sager O, Demiral S, Dincoglan F, et al. (2015) Evaluation of stereotactic body radiation therapy in the management of adrenal metastases from non-small cell lung cancer. *Tumori* 101(1): 98-103.
32. Sager O, Beyzadeoglu M, Dincoglan F, Demiral S, Uysal B, et al. (2015) Adaptive splenic radiotherapy for symptomatic splenomegaly management in myeloproliferative disorders. *Tumori* 101(1): 84-90.
33. Sager O, Dincoglan F, Beyzadeoglu M (2015) Stereotactic radiosurgery of glomus jugulare tumors: Current concepts, recent advances and future perspectives. *CNS Oncol* 4(2): 105-114.
34. Sager O, Beyzadeoglu M, Dincoglan F, Uysal B, Gamsiz H, et al. (2014) Evaluation of linear accelerator (LINAC)-based stereotactic radiosurgery (SRS) for cerebral cavernous malformations: A 15-year single-center experience. *Ann Saudi Med* 34(1): 54-58.
35. Demiral S, Beyzadeoglu M, Sager O, Dincoglan F, Gamsiz H, et al. (2014) Evaluation of Linear Accelerator (Linac)-Based Stereotactic Radiosurgery (Srs) for the Treatment of Craniopharyngiomas. *UHOD-Uluslararası Hematoloji Onkoloji Dergisi* 24(2): 123-129.
36. Sager O, Beyzadeoglu M, Dincoglan F, Gamsiz H, Demiral S, et al. (2014) Evaluation of linear accelerator-based stereotactic radiosurgery in the management of glomus jugulare tumors. *Tumori* 100(2): 184-188.
37. Ozsavaş EE, Telatar Z, Dirican B, Sager O, Beyzadeoglu M (2014) Automatic segmentation of anatomical structures from CT scans of thorax for RTP. *Comput Math Methods Med* 2014: 472890.
38. Demiral S, Beyzadeoglu M, Sager O, Dincoglan F, Gamsiz H, et al. (2014) Evaluation of linear accelerator (linac)-based stereotactic radiosurgery (srs) for the treatment of craniopharyngiomas. *UHOD - Uluslararası Hematoloji-Onkoloji Dergisi* 24: 123-129.

39. Gamsiz H, Beyzadeoglu M, Sager O, Dincoglan F, Demiral S, et al. (2014) Management of pulmonary oligometastases by stereotactic body radiotherapy. *Tumori* 100(2): 179-183.
40. Dincoglan F, Sager O, Gamsiz H, Uysal B, Demiral S, et al. (2014) Management of patients with  $\geq 4$  brain metastases using stereotactic radiosurgery boost after whole brain irradiation. *Tumori* 100(3): 302-306.
41. Sager O, Beyzadeoglu M, Dincoglan F, Demiral S, Uysal B, et al. (2013) Management of vestibular schwannomas with linear accelerator-based stereotactic radiosurgery: a single center experience. *Tumori* 99(5): 617-622.
42. Dincoglan F, Beyzadeoglu M, Sager O, Uysal B, Demiral S, et al. (2013) Evaluation of linear accelerator-based stereotactic radiosurgery in the management of meningiomas: A single center experience. *J BUON* 18(3): 717-722.
43. Dincoglan F, Beyzadeoglu M, Sager O, Oysul K, Kahya YE, et al. (2013) Dosimetric evaluation of critical organs at risk in mastectomized left-sided breast cancer radiotherapy using breath-hold technique. *Tumori* 99(1): 76-82.
44. Demiral S, Beyzadeoglu M, Uysal B, Oysul K, Kahya YE, et al. (2013) Evaluation of stereotactic body radiotherapy (SBRT) boost in the management of endometrial cancer. *Neoplasma* 60(3): 322-327.
45. Sager O, Beyzadeoglu M, Dincoglan F, Oysul K, Kahya YE, et al. (2012) Evaluation of active breathing control-moderate deep inspiration breath-hold in definitive non-small cell lung cancer radiotherapy. *Neoplasma* 59(3): 333-340.
46. Sağır Ö, Dinçoğlu F, Gamsiz H, Demiral S, Uysal B, et al. (2012) Evaluation of the impact of integrated [18f]-fluoro-2-deoxy-D-glucose positron emission tomography/computed tomography imaging on staging and radiotherapy treatment volume definition of nonsmall cell lung cancer. *Gulhane Med J* 54: 220-227.
47. Sager O, Beyzadeoglu M, Dincoglan F, Oysul K, Kahya YE, et al. (2012) The Role of Active Breathing Control-Moderate Deep Inspiration Breath-Hold (ABC-mDIBH) Usage in non-Mastectomized Left-sided Breast Cancer Radiotherapy: A Dosimetric Evaluation UHOD - Uluslararası Hematoloji-Onkoloji Dergisi 22(3): 147-155.
48. Dincoglan F, Sager O, Gamsiz H, Uysal B, Demiral S, et al. (2012) Stereotactic radiosurgery for intracranial tumors: A single center experience. *Gulhane Med J* 54: 190-198.
49. Dincoglan F, Beyzadeoglu M, Sager O, Oysul K, Sirin S et al. (2012) Image-guided positioning in intracranial non-invasive stereotactic radiosurgery for the treatment of brain metastasis. *Tumori* 98(5): 630-635.
50. Sirin S, Oysul K, Surenkok S, Sager O, Dincoglan F, et al. (2011) Linear accelerator-based stereotactic radiosurgery in recurrent glioblastoma: A single center experience. *Vojnosanit Pregl* 68(11): 961-966.
51. Dincoglan F, Demiral S, Sager O, Beyzadeoglu M (2024) Assessment of Changes in Tumor Size After Induction Systemic Therapy for Locally Advanced Cervical Squamous Cell Carcinoma Running title: Tumor size changes in cervical carcinoma. *Cancer Ther Oncol Int J* 26(1): 556178.
52. Beyzadeoglu M, Demiral S, Dincoglan F, Sager O (2024) Reappraisal of Target Definition for Sacrococcygeal Chordoma: Comparative Assessment with Computed Tomography (CT) and Magnetic Resonance Imaging (MRI). *Biomed J Sci & Tech Res* 55(1): 46686-46692.
53. Dincoglan F, Beyzadeoglu M, Demiral S, Sager O (2024) Appraisal of Changes in Tumor Volume After Neoadjuvant Systemic Therapy for Hepatocellular Carcinoma (HCC). *Cancer Ther Oncol Int J* 26(2): 556184.
54. Beyzadeoglu M, Demiral S, Dincoglan F, Sager O (2023) Evaluation of Target Definition for Radiotherapeutic Management of Recurrent Merkel Cell Carcinoma (MCC). *Canc Therapy & Oncol Int J* 24(2): 556133.
55. Dincoglan F, Demiral S, Sager O, Beyzadeoglu M (2023) Reappraisal of Treatment Volume Determination for Recurrent Gastroesophageal Junction Carcinoma (GJC). *Biomed J Sci & Tech Res* 50(5): 42061-42066.
56. Beyzadeoglu M, Dincoglan F, Demiral S, Sager O (2023) An Original Article Revisiting the Utility of Multimodality Imaging for Refined Target Volume Determination of Recurrent Kidney Carcinoma. *Canc Therapy & Oncol Int J* 23(5): 556122.
57. Beyzadeoglu M, Demiral S, Dincoglan F, Sager O (2023) Appraisal of Target Definition for Recurrent Cancers of the Supralottic Larynx. *Biomed J Sci & Tech Res* 50(5): 42131-42136.
58. Beyzadeoglu M, Demiral S, Dincoglan F, Sager O (2022) Assessment of Target Definition for Extramedullary Soft Tissue Plasmacytoma: Use of Multimodality Imaging for Improved Targeting Accuracy. *Canc Therapy & Oncol Int J* 22(4): 556095.
59. Dincoglan F, Sager O, Demiral S, Beyzadeoglu M (2022) Target Volume Determination for Recurrent Uterine Carcinosarcoma: An Original Research Article Revisiting the Utility of Multimodality Imaging. *Canc Therapy & Oncol Int J* 22(3): 556090.
60. Demiral S, Sager O, Dincoglan F, Beyzadeoglu M (2022) Reappraisal of Computed Tomography (CT) And Magnetic Resonance Imaging (MRI) Based Target Definition for Radiotherapeutic Management of Recurrent Anal Squamous Cell Carcinoma (ASCC): An Original Article. *Canc Therapy & Oncol Int J* 22(2): 556085.
61. Demiral S, Dincoglan F, Sager O, Beyzadeoglu M (2022) An Original Article for Assessment of Multimodality Imaging Based Precise Radiation Therapy (Rt) in the Management of Recurrent Pancreatic Cancers. *Canc Therapy & Oncol Int J* 22(1): 556078.
62. Sager O, Demiral S, Dincoglan F, Beyzadeoglu M (2022) Assessment of Target Volume Definition for Precise Radiotherapeutic Management of Locally Recurrent Biliary Tract Cancers: An Original Research Article. *Biomed J Sci & Tech Res* 46(1): 37054-37059.
63. Sager O, Demiral S, Dincoglan F, Beyzadeoglu M (2022) Radiation Therapy (RT) Target Volume Determination for Locally Advanced Pyriform Sinus Carcinoma: An Original Research Article Revisiting the Role of Multimodality Imaging. *Biomed J Sci & Tech Res* 45(1): 36155-36160.
64. Demiral S, Sager O, Dincoglan F, Beyzadeoglu M (2022) Improved Target Volume Definition for Radiotherapeutic Management of Parotid Gland Cancers by use of Multimodality Imaging: An Original Article. *Canc Therapy & Oncol Int J* 21(3): 556062.
65. Beyzadeoglu M, Sager O, Demiral S, Dincoglan F (2022) Reappraisal of multimodality imaging for improved Radiation Therapy (RT) target volume determination of recurrent Oral Squamous Cell Carcinoma (OSCC): An original article. *J Surg Surgical Res* 8(1): 004-008.
66. Dincoglan F, Sager O, Demiral S, Beyzadeoglu M (2022) Multimodality imaging-based treatment volume definition for recurrent Rhabdomyosarcomas of the head and neck region: An original article. *J Surg Surgical Res* 8(2): 013-018.
67. Dincoglan F, Demiral S, Sager O, Beyzadeoglu M (2022) Appraisal of Target Definition for Management of Paraspinal Ewing Tumors with Modern Radiation Therapy (RT): An Original Article. *Biomed J Sci & Tech Res* 44(4): 35691-35696.
68. Beyzadeoglu M, Sager O, Demiral S, Dincoglan F (2022) Assessment

- of Target Volume Definition for Contemporary Radiotherapeutic Management of Retroperitoneal Sarcoma: An Original Article. *Biomed J Sci & Tech Res* 44(5): 35883-35887.
69. Demiral S, Dincoglan F, Sager O, Beyzadeoglu M (2021) Assessment of Multimodality Imaging for Target Definition of Intracranial Chondrosarcomas. *Canc Therapy Oncol Int J* 18(2): 001-005.
  70. Dincoglan F, Sager O, Demiral S, Beyzadeoglu M (2021) Impact of Multimodality Imaging to Improve Radiation Therapy (RT) Target Volume Definition for Malignant Peripheral Nerve Sheath Tumor (MPNST). *Biomed J Sci Tech Res* 34(3): 26734-26738.
  71. Sager O, Demiral S, Dincoglan F, Beyzadeoglu M (2021) Multimodality Imaging Based Treatment Volume Definition for Reirradiation of Recurrent Small Cell Lung Cancer (SCLC). *Arch Can Res* 9(1): 1-5.
  72. Demiral S, Sager O, Dincoglan F, Beyzadeoglu M (2021) Radiation Therapy (RT) Target Volume Definition for Peripheral Primitive Neuroectodermal Tumor (PPNET) by Use of Multimodality Imaging: An Original Article. *Biomed J Sci & Tech Res* 34(4): 26970-26974.
  73. Dincoglan F, Demiral S, Sager O, Beyzadeoglu M (2021) Evaluation of Target Definition for Management of Myxoid Liposarcoma (MLS) with Neoadjuvant Radiation Therapy (RT). *Biomed J Sci Tech Res* 33: 26171-26174.
  74. Sager O, Dincoglan F, Demiral S, Beyzadeoglu M (2021) Radiation Therapy (RT) target determination for irradiation of bone metastases with soft tissue component: Impact of multimodality imaging. *J Surg Surgical Res* 7(1): 042-046.
  75. Sager O, Dincoglan F, Demiral S, Beyzadeoglu M (2021) Evaluation of Changes in Tumor Volume Following Upfront Chemotherapy for Locally Advanced Non-Small Cell Lung Cancer (NSCLC). *Glob J Cancer Ther* 7(1): 031-034.
  76. Sager O, Demiral S, Dincoglan F, Beyzadeoglu M (2021) Assessment of posterior fossa target definition by multimodality imaging for patients with medulloblastoma. *J Surg Surgical Res* 7(1): 037-041.
  77. Dincoglan F, Sager O, Demiral S, Beyzadeoglu M (2021) Assessment of the role of multimodality imaging for treatment volume definition of intracranial ependymal tumors: An original article. *Glob J Cancer Ther* 7(1): 043-045.
  78. Beyzadeoglu M, Dincoglan F, Demiral S, Sager O (2020) Target Volume Determination for Precise Radiation Therapy (RT) of Central Neurocytoma: An Original Article. *International Journal of Research Studies in Medical and Health Sciences* 5(3): 29-34.
  79. Dincoglan F, Demiral S, Sager O, Beyzadeoglu M (2020) Utility of Multimodality Imaging Based Target Volume Definition for Radiosurgery of Trigeminal Neuralgia: An Original Article. *Biomed J Sci & Tech Res* 26(2): 19728-19732.
  80. Demiral S, Beyzadeoglu M, Dincoglan F, Sager O (2020) Assessment of Target Volume Definition for Radiosurgery of Atypical Meningiomas with Multimodality Imaging. *Journal of Hematology and Oncology Research* 3: 14-21.
  81. Dincoglan F, Beyzadeoglu M, Demiral S, Sager O (2020) Assessment of Treatment Volume Definition for Irradiation of Spinal Ependymomas: an Original Article. *ARC Journal of Cancer Science* 6(1): 1-6.
  82. Sager O, Demiral S, Dincoglan F, Beyzadeoglu M (2020) Target Volume Definition for Stereotactic Radiosurgery (SRS) Of Cerebral Cavernous Malformations (CCMs). *Canc Therapy & Oncol Int J* 15(4): 555917.
  83. Sager O, Dincoglan F, Demiral S, Beyzadeoglu M (2020) Treatment Volume Determination for Irradiation of Recurrent Nasopharyngeal Carcinoma with Multimodality Imaging: An Original Article. *ARC Journal of Cancer Science* 6(2): 18-23.
  84. Sager O, Dincoglan F, Demiral S, Beyzadeoglu M (2020) Assessment of Target Volume Definition for Irradiation of Hemangiopericytomas: An Original Article. *Canc Therapy & Oncol Int J* 17(2): 555959.
  85. Sager O, Dincoglan F, Demiral S, Beyzadeoglu M (2020) Evaluation of Treatment Volume Determination for Irradiation of chordoma: an Original Article. *International Journal of Research Studies in Medical and Health Sciences* 5(10): 3-8.
  86. Demiral S, Dincoglan F, Sager O, Beyzadeoglu M (2020) Multimodality Imaging Based Target Definition of Cervical Lymph Nodes in Precise Limited Field Radiation Therapy (Lfrt) for Nodular Lymphocyte Predominant Hodgkin Lymphoma (Nlphl). *ARC Journal of Cancer Science* 6(2): 06-11.
  87. Sager O, Dincoglan F, Demiral S, Beyzadeoglu M (2020) Radiosurgery Treatment Volume Determination for Brain Lymphomas with and without Incorporation of Multimodality Imaging. *Journal of Medical Pharmaceutical and Allied Sciences* 9: 2398-2404.
  88. Beyzadeoglu M, Dincoglan F, Sager O, Demiral S (2020) Determination of Radiosurgery Treatment Volume for Intracranial Germ Cell Tumors (GCTS). *Asian Journal of Pharmacy, Nursing and Medical Sciences* 8(3): 18-23.
  89. Dincoglan F, Sager O, Demiral S, Beyzadeoglu M (2020) Target Definition of orbital Embryonal Rhabdomyosarcoma (Rms) by Multimodality Imaging: An Original Article. *ARC Journal of Cancer Science* 6(2): 12-17.
  90. Sager O, Dincoglan F, Demiral S, Beyzadeoglu M (2020) Evaluation of Target Volume Determination for Irradiation of Pilocytic Astrocytomas: An Original Article. *ARC Journal of Cancer Science* 6(1): 1-5.
  91. Demiral S, Beyzadeoglu M, Dincoglan F, Sager O (2020) Evaluation of Radiosurgery Target Volume Definition for Tectal Gliomas with Incorporation of Magnetic Resonance Imaging (MRI): An Original Article. *Biomedical Journal of Scientific & Technical Research (BJSTR)* 27(2): 20543-20547.
  92. Beyzadeoglu M, Sager O, Dincoglan F, Demiral S (2019) Evaluation of Target Definition for Stereotactic Reirradiation of Recurrent Glioblastoma. *Arch Can Res* 7(1): 3.
  93. Sager O, Dincoglan F, Demiral S, Gamsiz H, Uysal B, et al. (2019) Evaluation of the Impact of Magnetic Resonance Imaging (MRI) on Gross Tumor Volume (GTV) Definition for Radiation Treatment Planning (RTP) of Inoperable High-Grade Gliomas (HGGs). *Concepts in Magnetic Resonance Part A* 2019.
  94. Sager O, Dincoglan F, Demiral S, Gamsiz H, Uysal B, et al. (2019) Utility of Magnetic Resonance Imaging (Imaging) in Target Volume Definition for Radiosurgery of Acoustic Neuromas. *Int J Cancer Clin Res* 6: 119.
  95. Demiral S, Sager O, Dincoglan F, Beyzadeoglu M (2019) Assessment of Computed Tomography (CT) And Magnetic Resonance Imaging (MRI) Based Radiosurgery Treatment Planning for Pituitary Adenomas. *Canc Therapy & Oncol Int J* 13(2): 555857.
  96. Dincoglan F, Sager O, Demiral S, Beyzadeoglu M (2019) Multimodality Imaging for Radiosurgical Management of Arteriovenous Malformations. *Asian Journal of Pharmacy, Nursing and Medical Sciences* 7(1): 7-12.
  97. Sager O, Dincoglan F, Demiral S, Beyzadeoglu M (2019) Evaluation of Radiosurgery Target Volume Determination for Meningiomas Based on Computed Tomography (CT) And Magnetic Resonance Imaging (MRI). *Cancer Sci Res Open Access* 5: 1-4.
  98. Demiral S, Sager O, Dincoglan F, Beyzadeoglu M (2019) Assessment of target definition based on Multimodality imaging for radiosurgical Management of glomus jugulare tumors (GJTs). *Canc Therapy & Oncol Int J* 15: 555909.

99. Dincoglan F, Sager O, Demiral S, Beyzadeoglu M (2019) Incorporation of Multimodality Imaging in Radiosurgery Planning for Craniopharyngiomas: An Original Article. *SAJ Cancer Sci* 6: 103.
100. Demiral S, Sager O, Dincoglan F, Uysal B, Gamsiz H, et al. (2018) Evaluation of Target Volume Determination for Single Session Stereotactic Radiosurgery (SRS) of Brain Metastases. *Canc Therapy & Oncol Int J* 12: 555848.
101. Cinar D, Karadakovan A, Akin M (2022) Effects of Paper Marbling Art in the Cancer Rehabilitation Process: Descriptive Research. *Journal of Traditional Medical Complementary Therapies* 5: 132-142.
102. Akin M, Duzova M (2022) Evaluatin of Treatment Volume Determination for Anaplastic Oligodendrogliomas Based on Multimodality Imaging: An Original Article. *Celal Bayar Universitesi Saglik Bilimleri Enstitusu Dergisi* 9(3): 414-417.
103. Cinkaya A, Akin M, Sengul A (2016) Evaluation of treatment outcomes of triple negative breast cancer. *Journal of Cancer Research and Therapeutics* 12(1): 150-154.
104. Duzova M, Akin M (2022) Evaluation of survival outcomes and prognostic factors in acinic cell carcinomas of the parotid gland receiving adjuvant radiotherapy. *Anatolian Current Medical Journal* 4(3): 290-294.
105. Akin M (2022) Tobacco and lung cancer in elderly patients located in southern marmara: epidemiological study. *Celal Bayar Universitesi Saglik Bilimleri Enstitusu Dergisi* 9(2): 310-313.
106. Akin M, Duzova M (2022) Single fraction image guided radiation therapy for management of bone metastases during the COVID-19 pandemic. *Journal of Health Sciences and Medicine* 5(4): 961-965.



This work is licensed under Creative Commons Attribution 4.0 License  
DOI: [10.19080/CTOIJ.2024.30.556282](https://doi.org/10.19080/CTOIJ.2024.30.556282)

## Your next submission with Juniper Publishers will reach you the below assets

- Quality Editorial service
- Swift Peer Review
- Reprints availability
- E-prints Service
- Manuscript Podcast for convenient understanding
- Global attainment for your research
- Manuscript accessibility in different formats  
( Pdf, E-pub, Full Text, Audio)
- Unceasing customer service

**Track the below URL for one-step submission**

<https://juniperpublishers.com/online-submission.php>