

Introduction

Malignant fungating wounds (MFWs) are a known complication from advanced malignancies. They are distressing for patients due to associated symptoms, including pain, odors, disfigurement, and its psychological impact on patients and caregivers. MFWs most commonly occur in breast, followed by head and neck (H&N) region.¹ Unlike other types of wound, surgery is often not an option for patients with MFWs due to the non-healing nature of wound. Instead, palliative radiotherapy (RT) is one commonly used treatment modality. However, there is a lack of evidence on the optimal radiation dose, technique, and effectiveness for the treatment of MFW. In this study, we reviewed on patients who received palliative RT for MFW in H&N region at our institute and explored the optimal management for MFW.

Objective and Methodology

Objective: To review the outcome of palliative RT in patients with MFWs in the H&N region and to discuss the management for MFWs.

Methodology: Medical records of 13 patients who received palliative RT for MFW in the H&N region at Queen Mary Hospital from 2020-2023 were reviewed retrospectively on tumour histology, RT dose fractionation and technique, time from RT to progression and survival after RT.

Results

The study included 13 patients, age range 52-91. The commonest histology was squamous cell carcinoma (n=8). The most frequently used radiation dose fractionation was 8Gy/1fr (n=5), followed by 30Gy/10fr (n=4). IMRT (n=5) and electron (n=4) were the most commonly adopted RT techniques.

The median time from completion of RT to documented progression the of MFWs was 58.5 days (IQR 26-104 days). 8 patients (61.5%) passed away within 100 days of completing RT, with a median survival of 97 days and an IQR of 70.5-128.5 days.

Case presentation

Madam Lau, an 87-year-old woman, was diagnosed with squamous cell carcinoma at the left medial canthus in 7/2019 but she refused treatment initially. The tumour progressed, resulting in an exophytic growth that caused complete ptosis and vision loss. She received palliative radiotherapy (30Gy/10fr, IMRT) in 11/2020, which initially yielded a good response, but symptoms returned after five months. Following rapid progression in 11/2021 and an episode of severe bleeding, she underwent a second course of palliative radiotherapy (20Gy/5fr, IMRT) in 3/2022, again responding well. However, the tumour progressed again after seven months, and Madam Lau's general condition deteriorated gradually. She passed away in palliative unit after being admitted for fever in 02/2023.

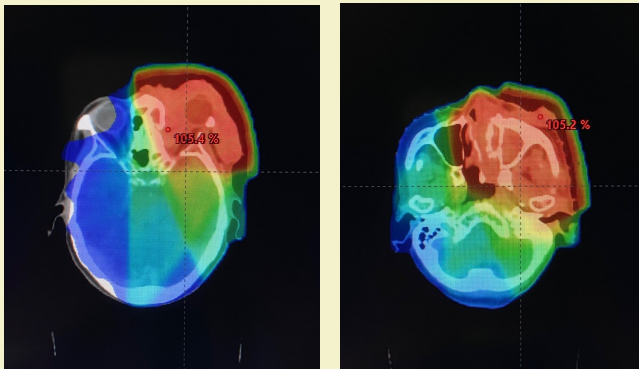


Figure 1. Dose distribution in the second course IMRT plan of Madam Lau



Figure 2. Clinical photos of Madam Lau before (left) and after (right) the second course RT



Radiotherapy in the Comprehensive Management of Malignant Fungating Wounds

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Discussion

Radiotherapy (RT) – RT is often used to alleviate local symptoms in patients, such as bleeding, fungation, and pain. Common regimens at our centre include 30Gy in 10 fractions and 8Gy in a single fraction. While literature on palliative RT for fungating wounds in H&N cancer is limited, more data exist for breast cancer, which has a higher incidence. A review indicated a response rate greater than 90% for fungating breast tumours, independent of the prescribed dose.² In contrast, H&N cancers, primarily squamous cell carcinoma, tend to have less favourable outcomes. Although 30Gy in 10 fractions is frequently used, there is no consensus on the optimal dose. Factors influencing the dose include lesion size, number, location, resource availability, treatment urgency, and the patient's overall fitness and prior treatments.

Anti-cancer systemic therapies, including chemotherapy, targeted therapy, and immunotherapy, play a crucial role in managing rapidly growing tumors. However, their efficacy in H&N malignancies is less promising than in breast cancer, where fungating wounds are also common. Recent advances in immunotherapy offer hope for improved responses in selected patients³, but many still lack effective options. Patients with fungating tumors are often deemed unsuitable for chemotherapy due to risks of infection and sepsis. Additionally, older patients with a history of heavy smoking and alcohol use often have significant comorbidities that further compromise their ability to tolerate treatment.

Effective **wound dressing and nursing care** are vital for healing and odor control. Foam dressings with silver or charcoal help absorb exudate and maintain a moist environment. Metronidazole gel is effective for deodorizing fungating tumors.⁴ Community support includes education on wound care, access to supplies, and regular healthcare follow-ups.

Antibiotics are commonly used for MFWs where excessive microbial growth can cause malodour and impact quality of life. Inadequate care may lead to myiasis in neglected wounds. Topical antibiotics like metronidazole can help reduce malodour and microbial load, but systemic antibiotics may struggle to penetrate the wound effectively.⁴ If myiasis occurs, anti-parasitic treatments are necessary. A tailored microbiological treatment plan is essential for managing these complex cases.

Minor **bleeding** occurred in 39% of patients with MFWs, with 19% experiencing hemorrhagic episodes and 2.2% dying from bleeding.⁷ Tranexamic acid or adrenaline gauze can be applied as hemostatic dressing with pressure to point of bleeding in cases with minor bleeding.⁸ Risk of profuse bleeding increases in tumor proximal to major vessels. CT angiograms and arterial embolization by interventional radiologists can effectively achieve hemostasis.

Pain management is essential in palliative care, as many patients experience significant discomfort during their cancer journey. Analgesics should be administered following the World Health Organization's analgesic ladder, starting with non-opioids and progressing to stronger opioids as needed. Involving a pain specialist can help manage refractory pain through advanced interventions like nerve blocks and intrathecal pump.⁵ Additionally, non-pharmacological treatments, such as mindfulness-based cognitive therapy, have shown lasting improvements in pain severity.⁶



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Discussion (continued)

MFWs significantly impact **psychological well-being**, causing anxiety, depression, and reduced self-esteem. Comprehensive care involving a multidisciplinary team—clinical psychologists, social workers, and wound care specialists—is essential. Key strategies include providing emotional support, education about the condition, and fostering social connections to enhance resilience and overall well-being.

Conclusion

The management of MFWs is challenging and requires a multidisciplinary approach. Radiotherapy is one method that can provide symptom control for tumor fungation. The optimal radiation dose and technique depend on various factors, such as tumor histology and extent, prior treatments, and patient condition. Overall, the primary goal in managing MFWs is to maintain the quality of life for the patient and their family. A compassionate, holistic approach is essential to address the complex physical, psychological, and emotional needs of individuals with MFWs.

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