Episode 92 – Interview with Dr. Erin Watson: Impact of dental insurance on cancer treatment outcomes September 15, 2023

Dr. Erin Watson, DMD, MHSc
Dr. Erin Watson is a general dentist at Princess Margaret Cancer Centre, where she holds an appointment as a Clinician-Investigator and acts as the Deputy Chief of Dentistry. She is also an Assistant Professor at University of Toronto's Faculty of Dentistry.

Dr. Watson graduated with the gold medal from the Faculty of Dentistry at McGill University in 2012, followed by a residency in Hospital Based Dentistry at Mount Sinai hospital in Toronto, as well as a Master's in Health Administration at University of Toronto. Dr. Watson's research is focused on quality, patients with head and neck cancer, and the inequity experienced by patients with cancer seeking oral healthcare.

Research
Implication of dental insurance status on patterns of pre-radiation dental extraction and risk of osteoradionecrosis of the jaw in head-and-neck cancer patients.

Abstract
Oral toxicities such as osteoradionecrosis[1] can be minimized by dental screening and prophylactic dental care prior to head and neck (HN) radiation therapy (RT). However, limited information is available about how dental insurance interacts with prophylactic dental care and osteoradionecrosis. To address this gap in knowledge, we conducted a cohort study of 2743 consecutive adult patients treated with curative radiation for HN malignancy who underwent pre-radiation dental assessment and where required, prophylactic dental treatment. Charts were reviewed to determine patient demographics, dental findings, dental treatment and development of osteoradionecrosis following radiation. Three insurance cohorts were identified: private-insured (50.4%), public-insured (7.3%), being patients with coverage through government-funded disability and welfare programs, and self-pay (42.4%).

More than half the public-insured patients underwent prophylactic pre-radiation dental extractions, followed by self-pay patients (44%) and private-insured patients (26.6%). After a median follow-up time of 4.23 years, 6.5% of patients developed osteoradionecrosis. The actuarial rate of osteoradionecrosis in the public-insured patients was 14.7% at 5-years post-RT, compared to 7.5% in private-insured patients

[1] Refer to Episode 78 for information on osteoradionecrosis.

and 6.7% in self-pay patients. On multivariable analysis, dental insurance status, DMFS160, age at diagnosis, sex, tumor site, nodal involvement, years smoked and gross income were all significant risk factors for tooth removal prior to HN radiation. However, only public-insured status, tumor site and years smoked were significant risk factors for development of osteoradionecrosis. Our findings demonstrate that lack of comprehensive dental coverage (patients who self-pay or who have limited coverage under public-insured programs) associates strongly with having teeth removed prior to HN RT. Nearly 1 in 6 patients covered under public-insurance developed osteoradionecrosis within 5 years of completing their treatment. Well-funded dental insurance programs for HN cancer patients might reduce the number of pre-RT extractions performed in these patients, improving quality of life post-RT. [1]

Research team

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Reference

[1] E. Watson, A. El Maghrabi, J. Lee and et al., "Implication of dental insurance status on patterns of pre-radiation dental extraction and risk of osteoradionecrosis of the jaw in head-and-neck cancer patients," *Oral Oncology,* vol. 145, October 2023.

Additional Resources

Implication of dental insurance status on patterns of pre-radiation dental extraction and risk of osteoradionecrosis of the jaw in head-and-neck cancer patients, Watson, E; El Maghrabi, A; Lee, J; et al. *Oral Oncology*, Volume 145, October 2023 https://www.sciencedirect.com/science/article/abs/pii/S1368837523002233

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Clinical practice guidelines for dental management prior to radiation for head and neck cancer, Watson, E; Mojdami, Z; Oladega, A; Hope, A; Glogauer, M; et al. *Oral Oncology,* Volume 123, December 2021 https://www.sciencedirect.com/science/article/abs/pii/S1368837521007119

Screening for dental infections achieves 6-fold reduction in dental emergencies during induction chemotherapy for acute myeloid leukemia, Watson, E; Metcalfe, J; Kreher, M; Maxymiw, W; Glogauer, M; Schimmer, A. *JCO Oncology Practice*, Volume 16, Issue 11, November 01, 2020, p e1397-e1405 https://ascopubs.org/doi/10.1200/OP.20.00107