Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

At 12-month, 64 % versus 75% of patients with high versus low SGR1 were alive (p=0.29) while 63% and 64% of patients with high versus low SGR2 were alive (p=0.60).

Conclusions: SGR measurements varied broadly within histological subgroups, however with overlap between groups. The impact on pre-SBRT tumour SGR on local control and survival requires validation in larger cohorts of oligo-metastases and OP patients.

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HIGH-QUALITY DNA EXTRACTION AND GUT MICROBIAL DETECTION TO EVALUATE PATHOLOGIC RESPONSE FOLLOWING NEOADJUVANT TREATMENT FOR LOCALLY ADVANCED RECTAL CANCER

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Purpose: There is a lack of biological predictors for pathological response, following neoadjuvant treatment for locally advanced rectal carcinoma. The association between the rectal microbiome and the degree of response has not yet been widely explored. Microbial diversity and amount can be analyzed by determining the presence of 16S ribosomal DNA (16S rDNA), as it is highly conserved between different species of bacteria. The objectives of this study were to determine: 1) if high-quality total bacterial 16S rDNA could be recovered from rectal cancer specimens following neoadjuvant treatment as a proof of principle; 2) whether quantifying 16S rDNA in rectal cancer specimens could serve as a marker of pathologic response rates.

Materials and Methods: We conducted a retrospective analysis of patients with pT3-4 pNX or pTX pN+ rectal adenocarcinomas treated with neoadjuvant short-course or long-course radiotherapy (RT) and total mesorectal excision (TME) from 2014-2018. Tumour blocks from patients' TME were reviewed by a pathologist to determine degree of pathological response (complete, near-total, partial, or no response). For total DNA extraction, sections from tissue blocks were deparaffinized and purified with elution columns (Qiagen). Quantitative polymerase chain reaction (qPCR) was performed to amplify 16S rDNA using Caporaso 515 FW and 806 RW primers. The relative amount of 16S rDNA was calculated from the number of PCR cycles (Cq) required to amplify 16S gene above the background fluorescence threshold. A Cq<31 indicates a high amount of genetic product present. We aimed to (1) determine the proportion of specimens with bacterial genetic material present defined as a Cq<31, and to (2) compare the calculated Cq values of specimens based on the degree of pathological response using the Kruskal-Wallis test.

Results: There were 82 cases that met our inclusion criteria. The median age was 63, and 36% of patients were female. The cohort comprised of: 26% Stage II, 54% Stage III, and 9% Stage IV patients. For RT treatment, 31 patients received 45Gy/25, 32 received 50.4/28, 16 received 25/5; 76% of patients received concurrent capecitabine with RT. For our primary outcome, 82/82 of patient specimens had a Cq<31, and thus all met the criteria of having a high amount of bacterial genetic material present. The mean Cq was 23.1 (interquartile range: 22.1 to 23.6). The maximum Cq was 28. The Cq by pathologic response was: 23.7 for complete, 23.0 for near-total, 23.2 for partial, and 22.0 for no response (p=0.6).

Conclusions: We have conducted a proof-of-concept study, showing the feasibility of total bacterial 16S rDNA extraction from pathologic rectal tissue specimens, following neoadjuvant treatment. Quantities of microbial 16S rDNA were similar, regardless of pathological response. This protocol allows for the possibility of further analysis of the rectal microbiota (including the study of microbial taxa diversity through 16S rDNA sequencing) and correlating this with rectal cancer outcomes.

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IMPACT OF THE COVID-19 PANDEMIC ON CANADIAN RADIATION ONCOLOGY PRACTICES

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Purpose: To survey Canadian radiation oncology (RO) practice leaders to determine the impact of the COVID-19 pandemic on radiation services and patient and staff issues in the early phase of the pandemic and one year later.

Materials and Methods: The RO leader (Department or Division Head) from every Canadian cancer centre with radiation services was identified. Two surveys were circulated to the identified leader via email from the CARO central office, utilizing the SurveyMonkey® survey tool: the first closed in June 2020 and the second (expanded) survey in June 2021, representing two points in time of the COVID-19 pandemic. Questions included patient volume, service interruptions and delays, changes in scheduling and virtual/telemedicine utilization, and relevant policies and procedures adopted. Additional questions were included in the follow-up survey to determine further impacts on disease presentation, volume, vaccination and access, and personnel issues.

Results: Multiple safety and infection-control processes were developed and implemented, which continued one year later. Virtual/telemedicine was widely adopted early in the pandemic, and continued to be a common technique to communicate/connect with patients. Although many centres were deferring/delaying certain disease sites early on in the pandemic, this was not as prevalent one year later. Reduced cancer screening and patients presenting with more advanced disease were concerns documented in the 2021 survey. A high level of concern regarding stress amongst health care professionals was identified.

Conclusions: Canadian RO centres have faced numerous challenges during the COVID-19 pandemic, but continued to provide timely and essential cancer care for patients with cancer. Future evaluation of RO centre practices will be important to continue to document and address the impact of the COVID-19 pandemic on issues relevant to RO leaders, patients and staff.

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OPTIMIZING RADIATION THERAPY DATA SUBMISSIONS THROUGH CARE PLANS: IMPLICATIONS FOR FUNDING

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Purpose: Radiation therapy in Ontario is transitioning to quality-based procedure funding beginning April 2022. Each patient must be associated with an evidenced-informed treatment protocol to trigger funding. This initiative reports the use of electronic care plans to link patients with the appropriate radiation therapy quality-based procedure (RT-QBP) protocols.