following which a booster of 6 to 20Gy was given to the resection site or to the macroscopic tumor with 1 cm margins (PTV2). In all patients the contralateral parotid gland was included in the optimatization process as an organ at risk, and in 16 cases also the dose of the contralateral submandibular gland was minimized. The mean total dose to the protected parotid glands was 23.4 Gy (range, 16.2 to 32.2 Gy) and to the submandibular glands 26.3 Gy (range, 21.0 to 34.4 Gy).
The total basal and stimulated salivary flow was assessed before RT and at 6 and 12 months following RT. Xerostomia-related symptoms were scored using the SOMA scale.

Table 1.

	Submandibular gland dose	Decline in basal secretion		Subjective xerostomia at 12 mo	
	Mean	At 6 mo	At 12 mo	Grade 0–1	Grade 2–4
Group 1 (n = 16)	26.3 Gy	36±6%	40±7%	74%	26%
Group 2 (n = 19)	50 Gy	64±6%	62±7%	38%	62%
		$p < 0.05$	$p < 0.05$		$p < 0.05$

Conclusion: Sparing of the submandibular glands using IMRT results in significantly better basal salivary secretion and less symptoms of xerostomia. No locoregional recurrences near the spared salivary glands were observed.

1040 POSTER

Phase II study of concurrent chemoradiotherapy with capecitabine and cisplatin in patients with locally advanced squamous cell carcinoma of the head and neck

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Objectives: The objectives of the present study were to evaluate the efficacy and safety of concurrent chemoradiotherapy with capecitabine and cisplatin in patients with locally advanced squamous cell carcinoma of the head and neck (SCCHN).
Patients and methods: Thirty-seven previously untreated, histologically confirmed patients with stage III or IV SCCHN were enrolled into the study. Chemotherapy consisted of two cycles of intravenous cisplatin of 80 mg/m^2 on day 1 and oral capecitabine 825 mg/m^2 twice daily from day 1 to 14 in a 3-week interval. Radiotherapy (1.8–2.0 Gy 1 fraction/day to a total dose of 70.2 to 72 Gy) was delivered to the primary tumor site and neck and was targeted to begin on the first day of chemotherapy.
Results: The median age of patients was 61.0 years (range, 35–75 years), and 31 (83.8%) patients were male. Primary sites of tumors were as follows: oral cavity (n = 6), oropharynx (n = 11), hypopharynx (n = 8), larynx (n = 3), nasopharynx (n = 6), and paranasal sinus (n = 3). Thirty-four (91.2%) out of 37 patients completed the planned treatment. After the chemoradiotherapy, 29 complete responses (CR; 78.4%) and 6 partial responses (PR; 16.2%) were confirmed, giving an overall response rate of 94.6%. Grade 3 or 4 neutropenia occurred in only 2 patients (5.4%), and grade 3 febrile neutropenia was observed in 1patients (2.7%). There was no treatment-related death. The common non-hematological toxicities were mucositis (grade 3/4, 67.6%) and dermatitis (grade 3/4, 24.3%). At a median follow-up duration of 303 days (range, 85–703 days), median survival has not yet been reached, while the estimated overall survival and progression free survival at 1-year was 90.5±5.3% and 59.9±9.1%, respectively.
Conclusions: Concurrent chemoradiotherapy with capecitabine and cisplatin was found to be well-tolerated and effective in patients with locally advanced SCCHN. Long-term follow-up is warranted to evaluate the late treatment failure and complications.

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A historical cohort study of Parotid gland malignancies in Manitoba – the Canadian experience

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Introduction: Parotid cancer is characterized by a complex and diverse group of tumours with a variable outcome. The objective of this study was to identify significant prognostic factors that can be used in clinical decision making.
Methods: A historical cohort study of 184 patients with parotid gland malignancy registered in the province of Manitoba from 1970 to 2003 was examined. Survival analysis using Kaplan Meier curves and log-rank test for comparing subgroups was used. The independent effect of factors that predicted survival at the bivariate level was determined using a Cox's proportional hazard model.
Results: The mean age at presentation was 60.50±18.2 years with a male to female ratio of 1.5:1. The mean and median follow-up was 64 and 32 months respectively. The most common presentation was a painless mass (n = 116). Pain was an associated symptom in 33 and facial nerve involvement was documented in 26 patients. Histology included mucoepidermoid carcinoma (21%), acinic cell carcinoma (18.4%), adenoid cystic (14.6%), adenocarcinoma (11.4%) and other (34.6%). Thirty-four patients had stage I, and 55, 29, and 50 patients Stages III-IV disease respectively. The treatment modalities in 161 patients treated with curative intent included radiotherapy (8.9%), surgery (28.9%), and surgery and radiotherapy (56.7%). Twenty-three patients had persistent disease after treatment. Recurrence was noted in 66 patients: 45 had locoregional disease and 21 failed at distant sites. Absolute and disease specific survival at 5 years was 41.70% and 57.94%. Survival for Stages I to IV at 5 years was 85.35%, 76.9%, 56.1% and 8.4% ($P < 0.0001$). Factors with an independent effect on survival ($P < 0.05$) included age, tumor size (per cm), local invasion (T4 vs. T1), distant metastasis, tumour differentiation and treatment. Adjunctive radiotherapy reduced the risk of death from disease at 5 years by 50% (HR 0.5; CI 0.228, 0.995; $P = 0.0486$).
Conclusion: Despite the diverse variety of malignant parotid tumors there are easily identifiable prognostic indicators, such as advanced age, tumor size, local invasion, and tumor differentiation that have a significant impact on outcome. Patients with adverse prognostic factors benefit from adjunctive radiotherapy and the threshold for the use of adjunctive radiotherapy in managing parotid malignancy should be low.

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Parotid scintigraphy as a tool to assess salivary gland dysfunction after radiotherapy in head and neck cancer patients

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Background: Radiotherapy in H&N region may lead to xerostomia. The purpose of this study is to prove the correlations between the radiation doses in parotid and submandibular glands and their salivary extraction fractions (SEF) measured by dynamic scintigraphy.
Material and methods: In 20 patients with pharyngeal and laryngeal cancer irradiated to total dose in range 62.5–72 Gy parotid and submandibular SEF were measured. Parotid and submandibular gland dose-volume histograms were obtained from 3D-computer treatment planning. SEF measurements were performed before (baseline) and 6 weeks after radiotherapy by 185 MBq 99Tc injected intravenously. Parotid and submandibular SEF rates were analysed in relation to radiation doses accumulated in (mean doses were respectively 34.8 Gy±8.5 Gy and 58 Gy±8.7 Gy, minimal doses were respectively 11.3 Gy±7.3 Gy and 46.4 Gy±10.9 Gy).
Results: Pre- and post-treatment SEF was measured for 40 submandibular and 40 parotids. Six weeks after radiotherapy SEF was generally lower by 51% but in 6th month was lower by 55% compared to the pre-treatment values. There was a significant correlation between SEF-ratios after 6 weeks of completing radiotherapy and radiation dose delivered to parotids ($r = -0.67$, $p = 0.002$). For submandibular glands there was no correlation between SEF ratios and radiation dose. There was also significant correlation between SEF-ratios after 6 weeks ($p = 0.02$) and % of irradiated volume of parotids.
Conclusions: The amount of SEF in parotid glands measured 6 weeks after radiotherapy clearly reflects dose-response relationship of irradiated