

locoregional control similar to those reported for radical surgery followed by radiotherapy, offering to the vast majority of the patients functional organ preservation.

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POSTER

Intensity modulated radiotherapy for oropharyngeal and hypopharyngeal cancers: a short-term result

T. Shibata¹, K. Nakamatsu¹, R. Koike¹, M. Okubo¹, K. Hiroi¹, T. Nishikawa¹, S. Kanamori¹, K. Mori², Y. Nishimura¹. ¹Kinki University School of Medicine, Radiation Oncology, Osaka-Sayama, Japan; ²Kinki University School of Medicine, Otolaryngology – Head and Neck Surgery, Osaka-Sayama, Japan

Background: To assess a short-term treatment result and toxicities of intensity modulated radiotherapy (IMRT) for oropharyngeal and hypopharyngeal cancers.

Materials and Methods: Between 2002 and 2006, we treated a total of 44 patients with squamous cell carcinomas of the oropharynx (19) and the hypopharynx (25) by IMRT. *Patient characteristics:* Gender: M/F = 40/4. Median age: 64 years (34–81), Performance status: 0/1/2 = 31/13/0. For oropharyngeal cancer (OPC), T1/2/3/4 = 5/9/3/2, N0/1/2a/2b/2c = 7/2/1/8/1, and clinical stage (UICC 2002) I/II/III/IVa/IVb = 1/5/3/9/1. For hypopharyngeal cancer (HPC), T1/2/3/4 = 10/11/3/1, N0/1/2a/2b/2c = 9/3/1/8/4, and I/II/III/IVa/IVc = 5/3/3/13/1. In totals, 24 of 44 patients (54%) had stage IV diseases. A planned neck dissection was also done in 64%. IMRT was performed with 4–6 MV X rays of 7 coplanar beam arrangements using a dynamic MLC technique. All patients were initially treated with a whole-neck IMRT of 44–54 Gy/22–27 fractions. At 40 Gy, CT scans were obtained again to make a boost IMRT plan targeting to the primary lesions and high-risk nodal regions to the total dose of 66–70 Gy/33–35 fractions. Twenty-eight patients (63%) received concurrent chemotherapy, such as weekly infusions of docetaxel (15 mg/m²) or 2–3 courses of cisplatin (80 mg/m²). Local tumor responses were assessed by fiberoptic and radiological examinations. Survival results were analyzed by the Kaplan-Meier method. Treatment-related toxicities were evaluated according to the Common Toxicity Criteria, version 3.0.

Results: Complete responses were achieved in 40 of 44 patients (91%). The 2-year local relapse-free survival rates were 89% and 46% for OPC and HPC, respectively. Salvage surgery was required in 4 cases of local recurrence and a neck dissection was done in a case of nodal recurrence. The corresponding 2-year overall survival rates were 83% for stage I-III and 90% for stage IV of OPC, and 85% for stage I-III and 27% for IV of HPC. The maximum acute dermatitis was G3: 6 cases (14%), Acute mucositis was G3: 22 (50%) and G4: 1 (2%). Higher mucosal reactions were observed with docetaxel significantly than with cisplatin. Xerostomia was observed G2: 14 (33%) at 3 months and 7 (21%) at >12 months after the initiation of IMRT.

Conclusions: The IMRT with concurrent chemotherapy produces promising local control and survival results for OPC and HPC with acceptable toxicities. Parotid gland sparing is also achievable with IMRT.

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POSTER

The potential for sparing the parotid glands with helical radiotherapy

M. Voordeckers¹, H. Everaert², K. Tournel¹, D. Verellen¹, G. Van Esch¹, C. Vanhove², G. Storme¹. ¹AZ-VUB, Radiation Oncology, Brussel, Belgium; ²AZ-VUB, Nuclear Medicine, Brussel, Belgium

Purpose: Radiotherapy for head and neck cancer patients causes distressing complications of which xerostomia – due to irradiation of the salivary glands – has the highest adverse effect on the quality of life. The aim of the current study is to investigate the potential of helical tomotherapy to preserve the parotid glands function.

Methods and Materials: The study includes patients with a head and neck cancer treated with helical tomotherapy (Hi-art Tomotherapy®) at the UZ Brussel. During planning, the highest priority is given to a satisfying PTV coverage: at least 95% of the prescribed dose must be delivered to at least 95% of the target. A dose of 70.5 Gy (2.35 Gy/fraction) is prescribed to the primary tumor and the pathological lymph nodes. The elective node regions receive 54 Gy (1.8 Gy/fraction): a simultaneous integrated boost scheme is used. If possible the mean dose to the parotid gland is kept below 26 Gy. Seven patients with a follow up of 12 months are evaluated. To assess the function of both parotids a salivary gland scintigraphy was performed before (baseline) and every 4 months after radiotherapy.

Results: There was a significant dose-response relationship between the mean dose (Gy) given to the parotid gland and the functional recuperation. If the mean dose is kept below 33 Gy a recuperation at least 12 months of 80% can be expected ($p = 0.0001$).

There is also a significant correlation between the salivary excretion (SE) and the percentage of parotid gland that received a dose <26 Gy (V26%).

To have a SE of 80%, 49% of the parotid volume should receive a dose less than 26 Gy ($p = 0.002$).

Conclusion: Not only the delivered mean dose but also the volume percentage that receives a dose <26 Gy is important. By using helical tomotherapy the parotid gland function can be preserved in many cases.

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POSTER

Stage III-IV sinonasal and nasal cavity carcinoma treated with 3D-conformal radiotherapy

M. Airoldi¹, A.M. Gabriele², M. Zeverino³, S. Amerio³, C. Condello⁴, A. Boidi Trotti², M. Garzaro⁵. ¹S. Giovanni Antica Sede Hospital, Medical Oncology, Torino, Italy; ²S. Giovanni Antica Sede Hospital, Radiotherapy, Torino, Italy; ³S. Giovanni Antica Sede Hospital, Medical Physics, Torino, Italy; ⁴S. Giovanni Antica Sede Hospital, School Of Medicine, Torino, Italy; ⁵S. Giovanni Battista Hospital, Ent, Torino, Italy

Purpose: To report the dosimetric data and clinical outcomes of patients with advanced neoplasm of the paranasal sinuses and nasal cavity, treated by three-dimensional conformal radiotherapy (3D-CRT).

Methods and Materials: Between 2000 and 2005, 31 consecutive patients were treated for locally advanced tumors of paranasal sinuses and nasal cavity. All patients underwent conformal radiotherapy, with or without surgery and chemotherapy.

Results: The median follow-up was 42 months. 5-year local tumor control, disease-free survival, overall survival and disease-specific survival actuarial rates were 60%, 48%, 56% and 70% respectively. 5-years local control and overall survival rates for patients treated with RT +/- CT were 30% and 25%. Local recurrence was the most common site of failure. Dosimetric data are reported.

Conclusion: The local control rate for these tumors remains low. The prognosis depends on localization, tumor stage and treatment modality. 3D-CRT reduces the risk on optical pathways but doesn't modify outcomes.

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POSTER

Video-assisted thyroidectomy with sentinel lymph node biopsy

F.E. Sevriukov. P.A. Herten Moscow Research Oncological Institute, Microsurgery, Moscow, Russian Federation

Introduction: The study was aimed to assess the feasibility of minimally invasive surgery for thyroid tumours.

Materials and Methods: In our centre 129 patients with benign and malignant thyroid tumours underwent video-assisted surgery. There were 111 women and 18 men (median age 41 years). Preoperative pathological findings: papillary/follicular adenoma – 75, high-grade differentiated early (T1–T3N0M0) – 34. The extent of surgical procedure was hemithyroidectomy + isthmusectomy in 116 patients, thyroidectomy with sentinel lymph node biopsy after preliminary lymphography in 13 patients. Micrometastases of papillary thyroid cancer in sentinel nodes were found in 7 cases. In all cases thyroidectomy was done extrafascially. Surgical incision (length 2–2.5 cm) was made ipsilaterally and parallel to the posterior of sternocleidomastoid muscle in the medium third of the neck.

Results: The incision described above ensured sufficient operation space, making it possible to perform either type of surgery. We observed no intraoperative complications. Immediate complications included mild hoarseness of the voice in 3 (3.87%) patients and hematoma in 1 (1.29%) patient. Hoarseness disappeared within 7 days after surgery, hematoma was handled conservatively. In all cases surgical margins were negative on pathological examination. The median operation time was 45–60 minutes, median hospital stay was 3 days.

Conclusions: Minimally invasive surgery with sentinel lymph node biopsy used for treatment of thyroid cancer does not compromise oncological radicality and ensures good cosmetic outcome.

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POSTER

Follicular carcinoma thyroid with bone metastasis – a dismal look but a call towards more drug research

B. Selvan, M.J. Paul. Christian Medical College Hospital, general and surgical endocrinology, Vellore, India

Background: In carcinoma thyroid with bone metastasis, follicular carcinoma thyroid is the commonest and females are most commonly affected.

Aim: To review bone metastasis among follicular carcinoma thyroid patients and the role of Iodine 131 ablation.

Patients and Methods: We have gone through the inpatient and outpatient records of patients who have bone metastases among follicular carcinoma thyroid for the past 15 years. The diagnosis was made either by I-131 scans or x-rays. All of them had total thyroidectomy except one. There were 684