

in these synchronous adjacent tumors, without increasing significantly the treatment time. (3) The only technical limitation: targets larger than 40 cm.

<http://dx.doi.org/10.1016/j.rpor.2013.03.251>

Branchiogenic squamous cell carcinoma. A case report

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Introduction. Branchial cleft cysts (BCC) are a rare entity. They may result from the failure of the obliteration of the second branchial cleft. The proportion of metastatic squamous cell carcinoma (SCC) in cysts initially presumed to be of branchial cleft origin has been reported to range from 11% to 21%. It is usually presents in the fifth or sixth decades. Lateral cyst masses most often represent an SCC originating in the epithelium of Waldeyer's ring-tonsil, tongue base and nasopharynx.

Objective. Treatment with IMRT of squamous cell carcinoma originated on a branchial cyst. **Methods:** we present a case of a 56-year-old man with a left neck mass lesion in January 2010. The CT scan showed us a superior cervical mass of 21 mm (II level) anteriorly to the jugular vein. In June 2010 our patient underwent complete surgical excision and ipsilateral modified radical neck dissection. The histopathologic study reported a squamous cell carcinoma originated on a branchial cyst (3 cm) and 18 lymph nodes free of metastases.

Results. Between August 2010 and September 2010 our patient received adjuvant radiotherapy with IMRT technique and integrated boost. We established the following targeted volumes: CTV1: tumor bed and CTV2: lymphatic drainage left levels II, III and IV. We administered a total dose of 60 Gy to CTV1 and 54 Gy to CTV2. The patient presented mucositis grade 1. Twenty-eight months after the treatment, there was no clinical or radiologic evidence of tumor recurrence.

Conclusion. The management of the branchiogenic squamous cell carcinoma should include extensive excision of tumor and ipsilateral radical neck dissection to improve the cure rate and survival rate. Adjuvant radiotherapy is recommended to improve prognosis. IMRT technique enables the target volume to be limited, potentially reducing the field of radiation to the radiosensitive larynx and nasopharynx.

<http://dx.doi.org/10.1016/j.rpor.2013.03.252>

Clinical efficacy of helical tomotherapy for T4/N3 nasopharyngeal carcinoma

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Introduction. Helical tomotherapy (HT), an image-guided intensity-modulated radiotherapy technique, allows an accurate target irradiation while sparing surrounding normal tissue. **Objective(s):** to evaluate the feasibility of HT in locally advanced nasopharyngeal carcinoma (LANPC) patients with intracranial extension and/or involvement of cranial nerves (IVa) or lymph nodes >6 cm and/or extension to supraclavicular fossa (IVb).

Materials and methods. From August 2009 to January 2013, 17 LANPC patients (IVa stage: 82%; IVb 18%) were treated with HT and simultaneous integrated boost technique. A median dose of 70 Gy to gross tumor volume and positive neck nodes with margin, 66 Gy to high-risk areas and 54 Gy to clinically negative neck, in 33 fractions, with concomitant/adjuvant platinum-based chemotherapy was delivered. Toxicity grading was based on RTOG criteria. Local, locoregional, distant control and overall survival rates were calculated by using Kaplan–Meier method.

Results. Median follow-up was 16 months (range, 3–36 months). Fifteen complete responses (CR) and 2 partial responses (PR) were showed. The toxicity RTOG ≥ 3 was: acute: grade 3: 65% (radiodermatitis $n = 4$, mucositis $n = 10$, aplasia $n = 1$), grade 4: 18% (aplasia: $n = 3$); late: grade 3: 7.5% (xerostomia: $n = 3$, dysphagia $n = 1$), Grade 4: 0%. Acute/late grade 5 complications were not observed, but one patient died with brain tissue lesions (recurrence vs necrosis vs abscess not confirmed). The three-year actuarial local, locoregional and distant control rate were of 93%, 88% and 86% respectively, and a 3-year actuarial progression free survival and overall survival rate of 63% and 79% respectively. Twelve patients (71%) are alive without disease, 1 patient had local and regional nodal failure and two patients distant failure (one of them died due to the disease).

Conclusions. HT showed highly conformal dose-avoidance of critical organs while achieving excellent target volume coverage in regions of highly complex geometry.

<http://dx.doi.org/10.1016/j.rpor.2013.03.253>