Adenoid cystic carcinoma of trachea treated with adjuvant hypofractionated tomotherapy. Case report and literature review

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ABSTRACT

Adenoid cystic carcinoma, also called cylindroma, is the second most common histological type of tracheal malignancy but represents 1% of all respiratory tract cancers. We report a case of a 59-year-old patient submitted to an incomplete resection of the trachea and subsequently treated with adjuvant tomotherapy. There have been no reports in the literature regarding intensity-modulated radiation therapy with linac or tomotherapy systems in adenoid cystic carcinoma of the trachea. The present clinical case demonstrates the feasibility of adjuvant intensity-modulated radiation therapy techniques for optimizing the dose coverage of the tumor bed while sparing surrounding normal tissues. A dosimetric comparison between the tomotherapy plan and a 3-dimensional conformal radiotherapy plan is also reported. We demonstrate that tomotherapy permits an increase in the dose per fraction without important acute adverse effects. At 24 months’ follow-up, our patient shows no evidence of disease with negative histological findings.

Key words: adenoid cystic carcinoma, hypofractionation, tomotherapy.

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