



Osteoradionecrosis of the Base of the Skull after Radiotherapy for Nasopharyngeal Carcinoma

Alami A*, Hassani W, Farhane FZ, Alami Z, Bouhafa T and Hassouni K

Department of Radiation Oncology, University Hospital Hassan II, Morocco

*Corresponding author: Alami Abdeslam, Hospital Center University Hassan II, Fes, Morocco, Tel: +212622424433, Email: abdessalami89@gmail.com

Case Report

Volume 3 Issue 1

Received Date: February 19, 2020

Published Date: March 02, 2020

DOI: 10.23880/ijnmrs-16000124

Abstract

We present the case of a 50-year-old patient with a history of undifferentiated nasopharyngeal carcinoma treated 6 years ago with chemotherapy combined with radiation therapy with intensity modulation and who currently has asymptomatic osteoradionecrosis of the base of the skull diagnosed thanks to the CT examination objectifying atypical bone lesions of moth-eaten appearance.

Keywords: Osteoradionecrosis; Base of the Skull; Nasopharyngeal Carcinoma

Case Report

A 50 year old patient followed for a malignant tumor of the nasopharynx of undifferentiated carcinoma type, initially classified T2N2MO according to the eighth edition of the classification of the American joint committee on cancer for which he received a conformal radiotherapy with modulation of intensity with simultaneous integrated boost in 35 fractions of 1.6 Gy on the target low risk volume; 1.8

Gy on the target volume of intermediate risk and 2 Gy on the target volume of high risk thus obtaining three dose levels: 56, 63 and 70 Gy. The ballistics of the treatment consisted of fourteen beams of photons with an energy of 6 MeV. Radiation therapy was performed at a fraction per day and five fractions per week, in combination with concomitant Cisplatin chemotherapy administered weekly at a dose of 40 mg / m² (Figure 1).



Figure 1: Sagittal and axial dosimetric CT images showing the dose distribution obtained following treatment planning with selected dose interval from 59,8 Gy to 67,4 Gy.

The evolution was characterized by the highlighting; after six years from the end of his treatment; by scanning CT imaging of a moth-eaten appearance at the level of the sphenoidal bone which was the site of rounded lytic

lesions without contrast enhancement or infiltration of the soft tissues facing. The bone scintigraphy was without abnormalities. Clinically, the patient was asymptomatic (Figure 2).

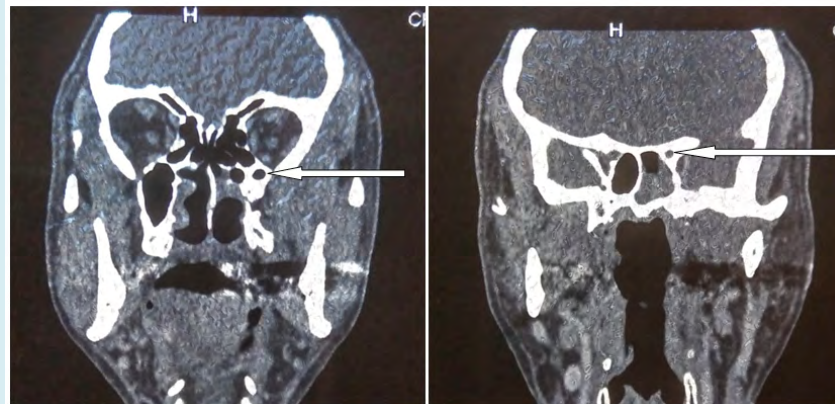


Figure 2: Coronal CT images showing a mite-like appearance at the base of the skull related to osteoradionecrosis in a 50-year-old patient followed for pharyngeal carcinoma, treated by radiotherapy and concomitant chemotherapy.

Discussion

Osteoradionecrosis could result from several factors such as radio-induced damage to osteoblasts and osteoclasts or radio-induced vascular damage to bone tissue. Clinical studies have shown that it was associated with advanced tumors, high doses of nasopharynx radiation therapy and radiation fields that include the skull base [1]. Most osteoradionecrosis appears 1 to 3 years after irradiation [2]. It is often asymptomatic [3]. On CT images osteoradionecrosis appears in the form of a lytic zone within a demineralized bone. Pathological fracture, cortical erosions and bone loss can also be described. Osteoradionecrosis can sometimes simulate radiation-induced bone sarcoma. However, the absence of mass in the adjacent soft tissue points towards the diagnosis of radionecrosis rather than towards that of progressive tumor lesion [4].

Conclusion

Osteoradionecrosis of the base of the skull is a

rare complication of radiotherapy for nasopharyngeal carcinomas. Its clinical and radiological presentation is variable. Radiological examinations make it possible to diagnose subclinical forms.

References

1. Han P, Wang X, Liang F, Liu Y, Qiu X, et al. (2018) Osteoradionecrosis of the skull base in nasopharyngeal carcinoma: incidence and risk factors. *Int J Radiat Oncol Biol Phys* 102(3): 552-555.
2. Resnick D (1995) *Diagnosis of bone and joint disorders*. 3rd (Edn.), Saunders, Philadelphia, pp: 3276-3308.
3. Mnejja W, Siala W, Boudawara T, Ghorbel A, Frikha M, et al. (2009) Ostéoradionécrose de la base du crane après radiothérapie pour cancer du nasopharynx. *Cancer / Radiothérapie* 13(6-7): 676-677.
4. Libschitz HI (1994) Radiation changes in bones. *Seminars in Roentgenology* 29(1): 15-37.

