Clinical Oncology: Case Reports

Case Report

A SCITECHNOL JOURNAL

Management of Invasive Ductal Carcinoma of the Parotid Gland: A Case Report

Samia Mhirech*, A. Attolou, H. Marrakchi, S. Ouaddane, N. Bouayad, W. Hassani, FZ. Farhane, Z. ALAMI, T. Bouhafa

Abstract

Invasive ductal carcinoma of the salivary glands is a very rare tumor that occurs preferentially in the parotid gland and is distinguished from other types of salivary gland carcinomas by its locoregional aggressiveness, the frequency of its metastatic evolution, and its poor prognosis.We report a rare case of infiltrating ductal carcinoma of the parotid gland in a 79-year-old patient and discuss the particularities of the management of this rare type of cancer in the elderly. Our patient had undergone an MRI which suspected a pleomorphic adenoma of the parotid gland, then a total nonconservative parotidectomy with homolateral lymph node curage whose anatomopathological results came back in favour of an infiltrating ductal carcinoma of the left parotid gland with lymph node metastasis. Radiation therapy was indicated despite the patient's age and the associated defects given the aggressiveness of this type of tumor.

Keywords: Invasive ductal carcinoma; Parotid gland; Case report; Salivary glands; Tumor

Introduction

Invasive ductal carcinoma of the parotid gland is a very rare histological entity of salivary gland cancers. It is an aggressive tumor with a tendency to local recurrence and a high lymph node and distant metastatic potential. Treatment is based on surgery and external radiotherapy.We report a rare case of infiltrating ductal carcinoma of the parotid gland in a 79-year-old adult treated in our department. This case highlights the particularities of management in elderly subjects.

Case Presentation

We report the case of a 79-year-old man, diabetic on poorly monitored oral antidiabetic drugs and hypertensive on beta blockers, who presented with a rapid increase in size of the left parotid gland. Physical examination revealed a 3 cm long, hard, fixed, and painful left parotid swelling. The patient initially underwent cavoscopy with biopsy before undergoing MRI of the parotid gland which revealed a nodular upper polar lesion of the left parotid gland in favour of a pleomorphic adenoma of the parotid gland. A total left parotidectomy with curage of the functional homolateral cervical lymph nodes was performed two months after the MRI. Histological examination concluded to be an infiltrating ductal carcinoma of the left parotid gland measuring 3.5 cm x 3 cm major diameter with many lymph node metastases (20N+/ 22N) in capsular effractions and vascular emboli (Figure 1).

On the day of consultation one month after surgery, a patient was found to have multiple tares, a WHO performance index of 3 and a G8 score of 5. Physical examination revealed a clean left parotidectomy and lymph node scar. Irradiation of the left parotid lodge and cervical lymph nodes was performed using an 18 MeV photon intensity modulated radiotherapy technique. The total dose was 48 Gy with a fraction of 4 Gy per fraction and two fractions per week. With regular clinical and radiological monitoring by weekly portal images, the disease appeared to be controlled both locally and remotely. The patient died after six fractions due to cardiorespiratory arrest (Figure 2).

Discussion

Invasive ductal carcinoma of the parotid gland was first described in 1968 by Kleinsasser et al [1]. It accounts for 0.2% - 2% of parotid tumors, and 6% -10% of malignant parotid tumors [2,3]. It usually occurs in the fifth or sixth decade with a mean age at diagnosis of 55years-65years and a male predominance [4,5]. In approximately 20% of cases, ductal carcinoma of the salivary glands develops from a pre-existing benign lesion such as a pleomorphic adenoma [2,3]. The most common clinical presentation is that of a rapidly progressive parotid swelling, usually painful and hard to palpate. Extra parotid extension is common, reported in 69% - 78% of cases. Facial paralysis, indicating the local aggressiveness of the tumor, is reported in 40% - 60% of cases [6,7]. This facial paralysis is related to the degree of nerve invasion found on histological study; in aggressive forms, mastication or vocalization disorders may be observed. Nodal involvement is also observed in 40% - 80% of cases [8]. The atypical clinical presentation in the case reported here is due to the fact that there was little pain in the development of the disease without facial paralysis, which led to the suspicion of jugulocarotid adenopathy secondary to a malignant tumor of the cavum, hence the initial performance of cavoscopy before any imaging.

On imaging, MRI of the parotid gland usually shows a uni or multinodular tumor with T1 isosignal, T2 isosignal, which is strongly enhanced by gadolinium injection. Calcifications may be identified in the primary lesion [2,6].

Histologically, ductal infiltrating carcinomas of the salivary glands are similar in morphology to ductal infiltrating carcinoma of the breast. The architecture can be trabecular, cribriform, massive with comedonecrosis, or micropapillary or even sarcomatoid. As is usually the case in breast tumors, there is often an intraductal component, usually cribriform [9].

The treatment of salivary ductal carcinoma must be radical due to the aggressive nature of this type of tumor. Adequate surgical resection is the mainstay of treatment [10]. It consists of a total parotidectomy extended to the invaded structures associated with systematic homolateral lymph node dissection [11-13]. For salivary ductal carcinoma, there are no specific recommendations for lymph node

***Corresponding author:** Samia Mhirech, Department of Radiotherapy, Oncology Hospital, CHU HASSAN II of Fez, Morocco. E-mail: mhirech.samia@gmail.com

Received: April 03, 2023; Manuscript No: COCR-23-94188; **Editor Assigned:** April 04, 2023; PreQC Id: COCR-23-94188 (PQ); **Reviewed:** April 13, 2023; QC No: COCR-23-94188 (Q); **Revised:** April 16, 2023; Manuscript No: COCR-23-94188 (R); **Published:** April 21, 2023; DOI: 10.4172/cocr.6(4).286

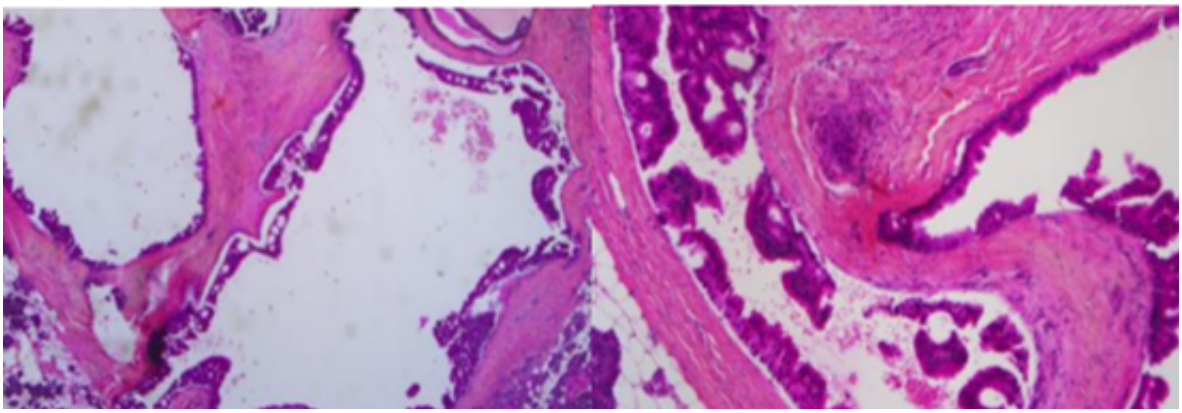

Figure 1: Histological appearance of ductal infiltrating carcinoma of the parotid gland.

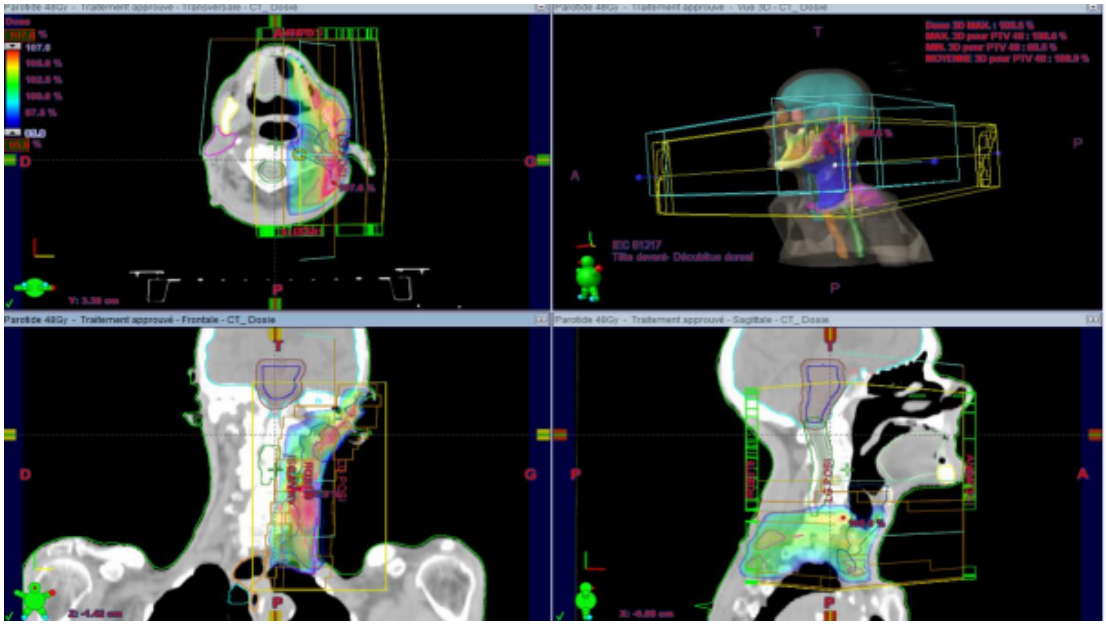

Figure 2: Dosimetry image of our patient showing the coverage of the different volumes.

dissection, but in the case of high-grade parotid cancer, sectors II, III and IV are recommended. In our patient, a radical curage involving sectors I, II, III and IV was performed. Postoperative radiotherapy was systematically performed as this was a high-grade parotid cancer [12-15]. According to the National Comprehensive Cancer Network (NCCN 2020) and other studies [16], radiotherapy is an effective and adequate treatment option, regardless of the T-stage and status of surgical margins.

The management of elderly patients with head and neck cancer is a challenge. Practitioners are faced with the potential toxicity of standard treatments, which can compromise the entire therapeutic sequence, and the risk of under-treatment in the case of light radiotherapy. Geriatric assessments allow patients to be classified into "FIT" (non-fragile) or "UNFIT" (vulnerable) groups. The question of local treatment is different depending on the patient's geriatric group.

For "UNFIT" patients, as in our patient's case, the central question is the feasibility of normofractionated radiotherapy. The risk of severe mucositis increases significantly with the age of the patients: a study evaluating the tolerance of radiotherapy in 1589 patients included in the European Organization for Research and Treatment of Cancer (EORTC) trials between 1980 and 1995 showed that the rate of grade 4 mucositis was 8% in patients under 50 years of age and 31% in patients over 70 years of age [17]. In addition to acute toxicity, the total number of trips required to the radiotherapy department can be problematic in the frail elderly population, and unscheduled treatment interruptions due to fatigue are common [18,19]. However, the absence of local treatment is difficult to envisage because of the highly symptomatic nature of the evolution or local recurrence, especially for aggressive tumors such as infiltrating ductal carcinoma of the parotid gland, which causes major impairment of quality of life. It is therefore necessary to propose, in elderly "UNIFT" patients who are not candidatesfor standard radiotherapy, a local treatment that is sufficiently optimised to control the tumor, but less toxic [20,21].

Chemotherapy, on the other hand, has poor efficacy and there is no benefit to combining it with radiotherapy; it is reserved for metastatic forms. The respective roles of adjuvant chemotherapy or hormonal treatment can only be established through international clinical research.

Conclusion

Ductal carcinomas of the salivary glands originate from the epithelial cells of the glandular ducts and mainly affect the parotid gland. It is a high-grade malignancy tumor with a poor prognosis, local aggressiveness and high lymph node and distant metastatic potential. Treatment of localised forms is based on surgery and effective dose radiotherapy. Although there are few published data, head and neck hypofractionated radiotherapy is widely used in daily practice to treat elderly patients who are not candidates for standard fractionation. Chemotherapy is reserved mainly for diffuse or metastatic forms. In any case, the rapid evolution of our patient allows us to put into perspective the different therapeutic sequences and to know how to recognize patients who would benefit from surgery and then radiotherapy even if it is hypofractionated. Studies with more patients will allow a better selection of the patients benefiting from our therapies.

References

1. Kleinsasser O, Klein HJ, Hubner G (1968) Duct carcinoma of the salivary glands: Eine den Milchgangcarcinomen der Brustdrüse analoge Gruppe von Speicheldrusentumoren. Archiv fur klinische experiment Ohren, Nasen Kehlkopfheil 192:100-115.
2. Pons Y, Alves A, Clement P, Conessa C (2011) Ductal carcinoma of the parotid: About two cases, and a review of the literature. French Ann Oto-rhino-laryngol Cervico-facial Pathol 128: 232-234.
3. Schmitt NC, Kang H, Sharma A (2017) Salivary duct carcinoma: An aggressive salivary gland malignancy with opportunities for targeted therapy. Oral Oncol 74:40-48.
4. Osborn V, Givi B, Lee A, Sheth N, Roden D, et al. (2017) Characterization, treatment and outcomes of salivary ductal carcinoma using the National Cancer Database. Oral Oncol 71: 41-46.
5. BenJelloun H, Maazouzi A, Benchakroun N, Acharki A, Tawfiq N, et al. (2004) Ductal carcinoma of the parotid gland. About two cases and analysis of the literature. Cancer/Radiother 8: 383-386..
6. Hosal AS, Fan C, Barnes L, Myers EN (2003) Salivary duct carcinoma. Otolaryngol-Head Neck Surg 129: 720-725.
7. Jamal AM, Zhi-Jun S, Xin-Ming C, Yi-Fang Z (2008) Salivary duct carcinoma of the parotid gland: Case report and review of the literature. J Oral Maxillofacial Surg 66: 1708-1713.
8. Lazard DS, Baglin AC, Baujat B, Cox A, Condette-Auliac S, et al. (2010) Osteocondensing mandibular lesion of a parotid ductal carcinoma: Illustration of the nervous tropism of these tumours. French Ann Otorhinolaryngol Cervico-facial Pathol 127: 239-242.
9. Hui KK, Batsakis JG, Luna MA, Mackay B, Byers RM (1986) Salivary duct adenocarcinoma: Ahigh grade malignancy. J Laryngol Otol 100: 105-114.
10. Nakaguro M, Tada Y, Faquin WC, Sadow PM, Wirth LJ, et al. (2020) Salivary duct carcinoma: Updates in histology, cytology, molecular biology, and treatment. Cancer Cytopathol 128: 693-703.
11. Villepelet A, Lefèvre M, Verillaud B, Janot F, Garrel R, et al. (2019) Salivary duct carcinoma: Prospective multicenter study of 61 cases of the Reseau d'Expertise Francais des Cancers ORL Rares. Head Neck 41: 584-591.
12. Chidananda-Murthy G, Chandran J (2019) Salivary duct carcinoma of parotid gland: A rare tumor. Ind J Surg Oncol 10: 313-317.
13. Anwer AW, Faisal M, Adeel M, Waqas O, Bakar MA, et al. (2018) Clinicopathological behavior and treatment-related outcome of rare salivary duct carcinoma: The Shaukat Khanum Memorial Cancer Hospital experience. Cureus 10.
14. Beck AJC, Lohuis PJ, Al-Mamgani A, Smit LA, Klop WM (2018) Salivary duct carcinoma: Evaluation of treatment and outcome in a tertiary referral institute. Euro Arch Oto-Rhino-Laryngol 275: 1885-1892.
15. BenJelloun H, Maazouzi A, Benchakroun N, Acharki A, Tawfiq N, et al. (2004) Ductal carcinoma of the parotid gland. About two cases and analysis of the literature. Cancer/Radioth 8: 383-386.
16. Lewis AG, Tong T, Maghami E (2016) Diagnosis and management of malignant salivary gland tumors of the parotid gland. Otolaryngol Clin North Am 49: 343-380.
17. Pignon T, Horiot JC, Van den Bogaert W, Van Glabbeke M, Scalliet P (1996) No age limit for radical radiotherapy in head and neck tumours. Europ J Can 32: 2075-2081.
18. Junor EJ, Macbeth FR, Barrett A (1992) An audit of travel and waiting times for outpatient radiotherapy. Clin Oncol 4: 174-176.
19. Wasil T, Lichtman SM, Gupta V, Rush S (2000) Radiation therapy in cancer patients 80 years of age and older. Am J Clin Oncol 23: 526-530.
20. Lusinchi A, Bourhis J, Wibault P, Le Ridant AM, Eschwege F (1990) Radiation therapy for head and neck cancers in the elderly. Intern J Radiation Oncol Biol Phy 18: 819-823.
21. Ortholan C, Lusinchi A, Italiano A, Bensadoun RJ, Auperin A, et al. (2009) Oral cavity squamous cell carcinoma in 260 patients aged 80 years or more. Radioth Oncol 93: 516-523.

Author Affiliations Top

Department of Radiotherapy, Oncology Hospital, CHU HASSAN II of Fez, Morocco.