Short Communications

Angiosarcoma Secondary to Radiation of Right Cheek (One Case and Review of Literature)

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ABATRACT **Objective:** To improve the understanding of angiosarcoma secondary to radiation therapy. **Methods:** One case of angiosarcoma secondary to radiation therapy of right cheek is reported and discussed with review of literature. **Results:** The tumor of right cheek was resected, the Pathological diagnosis showed angiosarcoma. Although radiotherapy plays an important role in cancer treatment, it may lead to sarcoma.

Conclusions: The patients should have regular inspections after radiotherapy, in order to facilitate the early diagnosis and treatment of secondary sarcoma.

Key Words: cheek radiotherapy; secondary angiosarcoma

CASE REPORT

A male patient, 67 years old, was received in hospital because of the right cheek mass on November 10, 2007. Previous history: in July 2003, a tumor of right mandibular was described as gingiva well-differentiated squamous cell carcinoma (Figure A). Part of right mandible was resected by operation with selective right neck dissection and titannium was implanted in place. The patient received ucobalt 60 r line of vision of conventional external radiation after operation, five times every week, 90～100 Gy every week, and one month as a course of treatment. Physical examination: Right cheek skin was thickened and swelled, its texture was medium with unclear boundary.

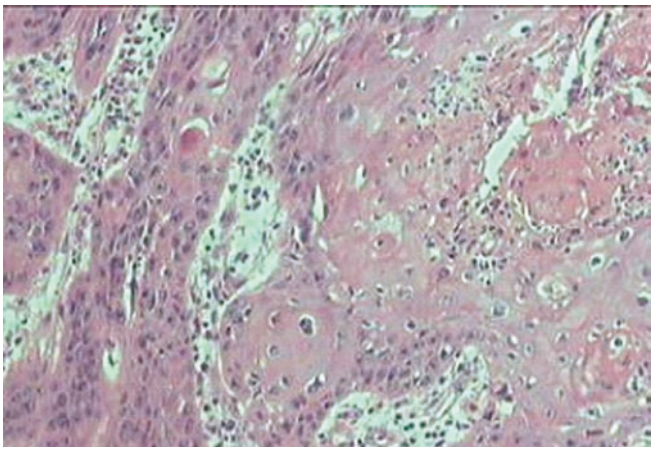

Fig.A Right gingiva well-differentiated squamous cell carcinoma HE 10X10

The right cheek tumor was resected and pathological diagnosis was performed on November 16, 2007. Pathological inspection: The grey and hard tumor was 3.5cm × 2.5cm × 2cm, with no envelope. Under microscope: The tumor cells were spindle, intertwined, shaped in a mass or sheet. Atypical and incomplete blood vessel with red cells both inside and outside, fissures were found, and the pathological nuclear fission was apparent (Figure

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B). Immunohistochemical inspection: CK-, Vi+, F8+, CD31+, CD34-, NSE-, CD68-, SMA-（Figure C, D, E）. Pathological diagnosis: The right cheek tumor was angiosarcoma after radiation.

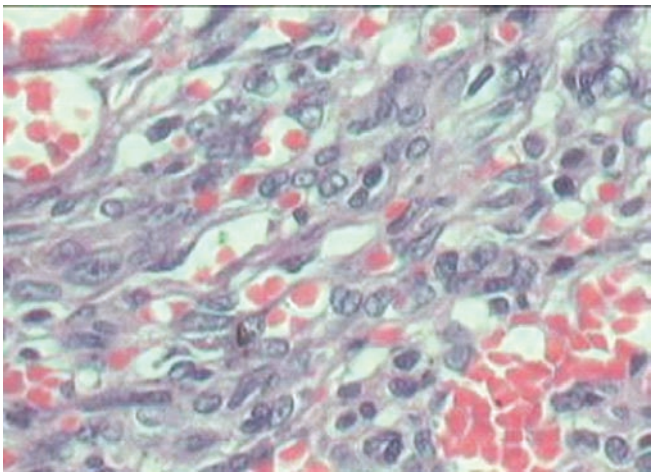

Fig. B: Angiosarcoma after right cheek radiation HE 10×40

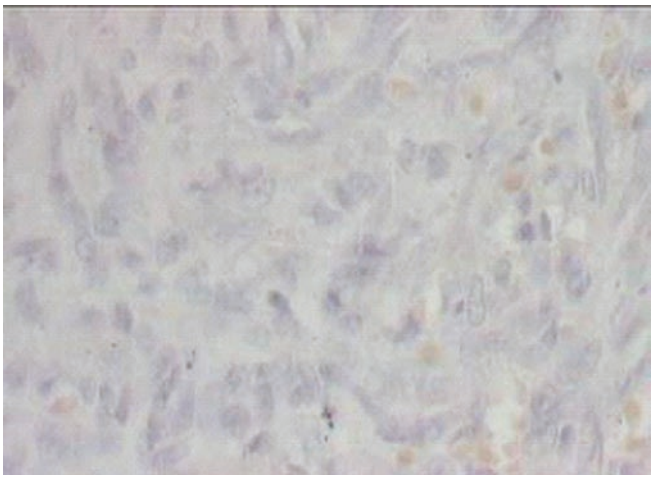

Fig. C: Angiosarcoma after right cheek radiation CK –10×40

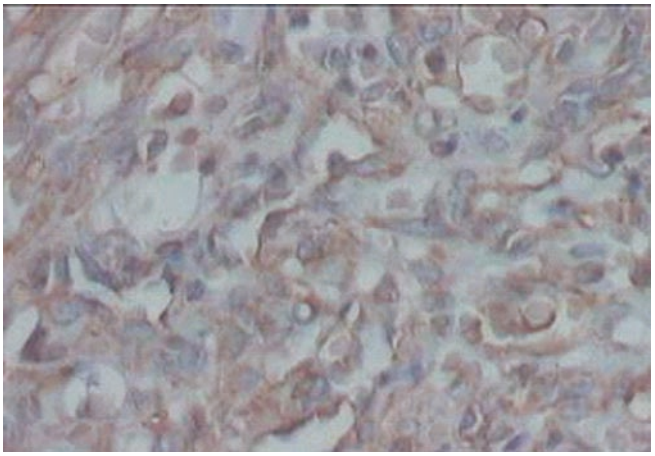

Fig. D: Angiosarcoma after right cheek radiation Vi+ 10×40

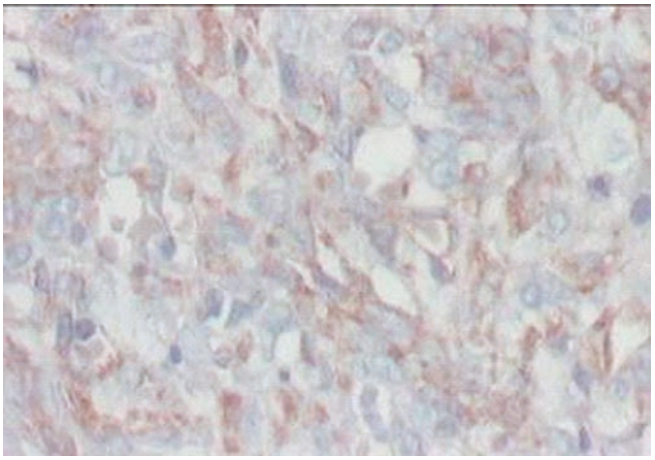

Fig. E: Angiosarcoma after right cheek radiation F–8+ 10×40

DISCUSSION

Angiosarcoma after radiation is rare, which were rarely reported in the literature at home and abroad. This was the first case found out of 160000 biopsy cases in Jilin Central Hospital.

It was reported that 5 years survival rate for patient was only 20% in the 1890s, but it increased to 50% in the 1990s. Radiotherapy is the second largest treatment following the operation, and approximately 60%～70% of cancer patients during treatment require radiation therapy [1], however, radiotherapy induced about 0.03% -0.8% chances of secondary sarcoma[2-3].The sarcoma occurrence is possibly caused by chronic radiation dermatitis or mucous membrane lesions with chronic radiation surrounding the abnormal cell proliferation. Such tumors generally have an incubation period of 3～25 years. Laskin et al[4] first proposed the following diagnostic criteria for secondary sarcoma after radiation: ⑴X-ray and tissue structure was no change with regard to sarcoma before or after radiation. ⑵Radiational tumors must be found within the radiation field. ⑶ Radiational tumors and secondary tumors generally have a latency of 3～25 years. ⑷Pathological diagnosis of sarcoma should have sufficient basis.

This case has clear history of radiation therapy, and secondary tumors occered in the same area of radiation with clear histological features. The tumor was widely resected, followed by chemotherapy and radiotherapy. Secondary sarcoma after radiation had a poor prognosis, the 5- years survival rate was only 10%～30% [5]. The angiosarcoma secondary to radiation of right cheek ocurred 3 months after treatment (Figure F), the patient died 7 months later. Although radiotherapy plays an important role in cancer treatment, it leads to sarcoma after radiation and poor prognosis, so the sarcoma patients should be paied attention to regular examination after radiotherapy. Qiu-Liang Wu et al[6] reported 10 cases of post-radiation sarcoma, 9 of which occurred after 3 years. In our case, post-radiation angiosarcoma occurred 4 years after radiotherapy. The patients who survived more than 3 years after radiation should have regular inspections in order to facilitate the early diagnosis and treatment of secondary sarcoma or precancerous lesions. Since radiotherapy is widely applied in cancer treatment, preventing the occurrence of secondary sarcoma after radiotherapy deserves further to study.

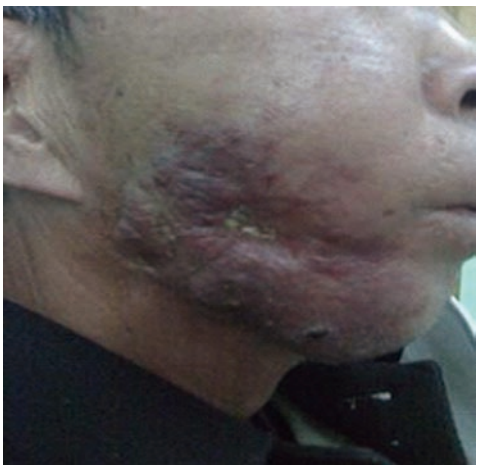

Fig. F: Angiosarcoma after right cheek radiation Naked eye

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