Malignant Fibrous Histiocytoma of the Parotid Gland

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Summary

We described a rare malignant fibrous histiocytoma of the parotid gland (MFH) in a 63-year-old woman. During six months the tumour size became 10 cm in diameter with skin ulceration. The tumour was examined morphologically, by immunohistochemistry and molecular biology methods – FASAY and CGH. The histology revealed a storiform-pleomorphic type of MFH with high mitotic rate. The FASAY method identified a non-mutated p53 gene. The chromosomal changes were identified by the CGH method and 6 cytogenetic changes were found in the tumour cells (deletions at 8p12-p22, 13q32-qter, 14q24-qter, and gains of chromosomal material at 5p, 8q12-q23, and Xq25-qter). The patient died shortly after the beginning of chemotherapy. Autopsy revealed brain and cerebellar haemorrhage. No other tumour foci were proved. In view of short course of disease we lack the data about the influence of the non-mutated p53 gene on the prognosis and therapy.

Key words: malignant fibrous histiocytoma - parotid gland – immunohistochemistry - molecular biology methods - p53 gene - comparative genomic hybridization

Souhrn
Maligní fibrózní histiocytom příušní slinné žlázy

Autoři popisují vzácný výskyt maligního fibrózního histiocytomu (MFH) parotis u 63leté ženy. Během šesti měsíců dosáhl nádor velikosti 10 cm a kůže nad ním zvředovatěla. Nádor byl vyšetřen morfologicky, imunohistologicky a metodami molekulární biologie- FASAY a CGH. Histologický nález ukázal storiformně-pleomorfní typ MFH s vysokým mitotickým indexem. Pomocí metody FASAY byl zjištěn nemutovaný gen p53. Metodou CGH jsme identifikovali chromozomové změny v karyotypu nádorových buněk. Prokázalo se šest chromozomových změn (delece úseků 8p12-p22, 13q32-qter, 14q24-qter, zisky oblastí 5p, 8q12-q23, a Xq25-qter).
Pacientka krátce po zahájení chemoterapie zemřela. Při pitvě se nalezlo rozsáhlé krvácení do mozkové a mozečkové hemisféry. Další nádorová ložiska se pitvou neprokázala. Vzhledem k relativně krátkému průběhu onemocnění nebyla možnost stanovit vliv nemutovaného genu p53 na prognózu onemocnění.

Klíčová slova: maligní fibrózní histiocytom – příušní slinná žláza – imunohistologie – metody molekulární biologie - gen p53 – komparativní genová hybridizace

Čes.-slov. Patol., 43, 2007, No. 4, p. 148–152

Malignant fibrous histiocytoma (MFH) is common in deep soft tissues of late adult life, with rare occurrence in the head and the neck. Almost 30 cases of MFH in the parotid gland have been reported so far (5, 9, 14). In this report we document an additional case of MFH in the right parotid gland with application of molecular pathology methods. We used the FASAY (Functional Analysis of Separated Alleles in Yeast) method which enables identification of mutated or non-mutated p53 gene, and the CGH (Comparative Genomic Hybridisation) method for identification of chromosomal alterations in tumour cells.

Case report

A 63-year-old woman was admitted with nodular resistance in the region of the right parotid gland. During six months the tumour continually enlarged to 10 cm in diameter and skin above the tumour ulcerated. The patient was admitted to hospital. A poorly defined swelling in the region of the right parotid gland (Fig.1) was revealed. A non-encapsulated tumour surrounding vessels and peripheral nerves was found and surgery could not be performed. The tumour totally destroyed the gland. Histologically, it consisted of spindle cells and