Multifocal gliosarcoma - a case report

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Gliosarcoma is a high-grade malignant tumor of the central nervous system, in which the vasculature and fibroblasts undergo a sarcomatous transformation, giving the tumor a mixed appearance. The incidence of gliosarcoma is between 1% and 8% of all malignant gliomas and thus represents an exceptionally rare neoplasm. It usually occurs in adults, with a male predominance, and most often in the cerebrum. We present an extremely rare case of multi-focal gliosarcoma. Multi-focal display has been described in malignant gliomas, but not in gliosarcoma. Our patient was a 60 year-old female, with chronic HBV and HCV hepatitis, with total hysterectomy and adnexectomy 37 years before, admitted for a sudden onset of right ataxic hemiparesis, paraphasia, agraphia, acalculia and finger agnosia. She had been experiencing acute confusional state and amnestic impairment for three weeks; at the time, a brain CT showed a left temporal ring engancing lesion, deep intraparenchymal and two other left parietal hyperdense, iodophilic lesions, hence a diagnosis of cerebral metastasis was initially made. No other tumors were found on whole-body CT. A cerebral MRI was performed, revealing T1 hyperintense deep intraparenchymal left temporal lesion with ring enhancement and mural gadolinophilic nodule; FLAIR sequences showed important perilesional edema. Differential diagnosis followed three radiological characteristics: 1) cerebral ring enhancing lesions (metastasis, abscess, glioblastoma, subacute infarct, demyelinating disease, resolving hematoma); 2) cerebral cystic tumors with mural nodule (hemangioblastoma, pilocytic astrocytoma, ganglioglioma, pleomorphic xanthoastrocytoma, cystic metastasis, intracerebral schwannoma); 3) multifocal cerebral lesions: primary or secondary. The left temporal tumor was surgically removed. Histopatological report revealed diffuse and vague fascicular malignant tumoral proliferation, with extensive necrosis, consisting of fusiform cells and focal epithelioid cells, major citonuclear atypia and numerous mitoses, intratumoral vascularization and hemorrhagic stromal areas, while immunohystochemistry revealed positive GFAP, S100, CD34, VIM, p53, both sustaining the diagnosis of gliosarcoma.