

PubMed

U.S. National Library of Medicine
National Institutes of Health



Display Settings: Abstract

[J Neurooncol.](#) 2011 Apr 22. [Epub ahead of print]

Osteoblastic meningiomas: clinico-pathological and immunohistochemical features of an uncommon variant.

[Barresi V](#), [Caffo M](#), [Ieni A](#), [Alafaci C](#), [Tuccari G](#).

Department of Human Pathology, Azienda Ospedaliera Universitaria "Polyclinic G. Martino", Via Consolare Valeria, 98125, Messina, Italy, vbarresi@unime.it.

Abstract

Osteoblastic meningioma is a rare variant of meningioma characterized by the presence of a variable number of bone spicules within the tumor parenchyma. Its histogenesis has not been yet fully clarified. Herein we report clinical and histological findings and expression of bone matrix proteins (osteocalcin and osteopontin) observed in seven osteoblastic meningiomas. None of the cases displayed recurrences or significant re-growth after partial resection. In 5/7 cases the osseous component occurred in association with psammoma bodies and dystrophic calcification. Interestingly, foci composed of immature bone trabeculae, mineralized chondroid matrix, and osteoclasts were found in one of the two cases with no psammoma bodies or calcification, suggesting enchondral ossification. Positive staining for osteocalcin, which is a marker of terminal osteoblastic differentiation, was observed within the bone spicules in all meningiomas, but not in the chondroid mineralized matrix. On the other hand, immuno-expression of osteopontin, an early osteogenic marker, was observed in the osteoclasts and in mature and immature bone spiculae, calcification, and psammoma bodies. Even more, osteopontin was extensively expressed by the neoplastic cells of cases without calcification or psammoma bodies, suggesting acquisition of osteoblastic phenotype in these meningiomas. In conclusion, osteoblastic meningioma seems to be an indolent variant of meningiomas characterized by a slow growth and good prognosis. Our histological and immunohistochemical findings suggest that bone formation may occur through two different pathways, i.e., as the final step of calcification or through a metaplastic mechanism in cases with absent calcification or psammoma bodies.

PMID: 21512824 [PubMed - as supplied by publisher]

LinkOut - more resources