

ABSTRACT

Neurosurgery. 2021 Jun 24;89(2):308-314. doi: 10.1093/neuros/nyab175.

Intracranial Meningiomas Decrease in Volume on Magnetic Resonance Imaging After Discontinuing Progestin.

Voormolen EHJ(1), Champagne PO(1), Roca E(1), Giammattei L(1), Passeri T(1), di Russo P(1), Sanchez MM(1), Bernat AL(1), Yoldjian I(2), Fontanel S(3), Weill A(4), Mandonnet E(1), Froelich S(1).

Author information:

(1)Department of Neurosurgery, Lariboisiere Hospital, University of Paris Diderot, Paris, France.

(2)National Agency for the Safety of Medicines and Health Products (ANSM), Paris, France.

(3)Grand Est Regional Health Authority, Nancy, France.

(4)Scientific Interest Group-Health Product Epidemiology (ANSM-CNAM EPI-PHARE SIG), National Health Insurance, Department of Public Health Studies, Saint-Denis, France.

Erratum in

Neurosurgery. 2021 Jul 23;:

BACKGROUND: The behavior of meningiomas under influence of progestin therapy remains unclear.

OBJECTIVE: To investigate the relationship between growth kinetics of intracranial meningiomas and usage of the progestin cyproterone acetate (PCA).

METHODS: This study prospectively followed 108 women with 262 intracranial meningiomas and documented PCA use. A per-meningioma analysis was conducted. Changes in meningioma volumes over time, and meningioma growth velocities, were measured on magnetic resonance imaging (MRI) after stopping PCA treatment.

RESULTS: Mean follow-up time was 30 (standard deviation [SD] 29) mo. Ten (4%) meningiomas were treated surgically at presentation. The other 252 meningiomas were followed after stopping PCA treatment. Overall, followed meningiomas decreased their volumes by 33% on average (SD 28%). A total of 188 (72%) meningiomas decreased, 51 (20%) meningiomas remained stable, and 13 (4%) increased in volume of which 3 (1%) were surgically treated because of radiological progression during follow-up after PCA withdrawal. In total, 239 of 262 (91%) meningiomas regressed or stabilized during follow-up. Subgroup analysis in 7 women with 19 meningiomas with follow-up before and after PCA withdrawal demonstrated that meningioma growth velocity changed statistically significantly ($P = .02$). Meningiomas grew (average velocity of 0.25 mm³/day) while patients were using PCA and shrank (average velocity of -0.54 mm³/day) after discontinuation of PCA.

CONCLUSION: Ninety-one percent of intracranial meningiomas in female patients with long-term PCA use decrease or stabilize on MRI after stopping PCA treatment. Meningioma growth kinetics change significantly from growth during PCA usage to shrinkage after PCA withdrawal.

© Congress of Neurological Surgeons 2021.

DOI: 10.1093/neuros/nyab175

PMID: 34166514