

# Meningioma risk factor

## Meningioma genomics

[Meningioma gene mutations.](#)

## Cyproterone acetate

[Cyproterone acetate.](#)

## Exogenous risk factors

They have been suspected to play a role in the etiology of meningiomas and their changes with time is likely to impact incidence trends. A causal link has been established only for ionising radiation but the role of many other factors have been hypothesised: electromagnetic fields, nutrition, pesticides, hormonal as well as reproductive factors. Considering the serious or even lethal potentiality of some meningiomas and the apparent rise in their incidence, all practitioners involved in neuro-oncology should feel concerned today of the necessity to better assess their public health burden and to study their epidemiological features <sup>1)</sup>.

Obesity but not overweight is associated with an increased risk of meningioma. Due to the limited number of studies, further research is needed to confirm the association <sup>2)</sup>.

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[Pregnancy](#) has been associated with diagnosis or growth of [meningiomas](#) in several [case reports](#), which has led to the [hypothesis](#) that pregnancy may be a [meningioma risk factors](#). The aim of a [study](#) of Pettersson-Segerlind et al. was to test this hypothesis in a large population-based cohort study. [Women](#) born in [Sweden](#) 1958-2000 (N = 2,204,126) were identified and matched with the Medical Birth Register and the Cancer Register. The expected number of meningioma cases and risk ratios were calculated for parous and nulliparous women and compared to the observed number of cases. Compared to parous women, meningiomas were more common among nulliparous (SIR = 1.73; 95% CI 1.52-1.95). The number of meningioma cases detected during pregnancy was lower than the expected (SIR = 0.40; 95% CI 0.20-0.72). Moreover, no increased risk was found in the first-year post-partum (SIR = 1.04; 95% CI 0.74-1.41). Contrary to this hypothesis, there was no increased risk for diagnosing a meningioma during pregnancy or 1-year post-partum. A lower detection rate during pregnancy, may reflect under-utilization of diagnostic procedures, but the actual number of meningiomas was homogenously lower among parous than nulliparous women throughout the study period, indicating that pregnancy is not a risk factor for meningioma <sup>3)</sup>.

<sup>1)</sup>  
Baldi I, Engelhardt J, Bonnet C, Bauchet L, Berteaud E, Grüber A, Loiseau H. Epidemiology of meningiomas. *Neurochirurgie*. 2014 Sep 20. pii:S0028-3770(14)00112-X. doi: 10.1016/j.neuchi.2014.05.006. [Epub ahead of print] Review. PubMed PMID: 25249493.

<sup>2)</sup>

Shao C, Bai LP, Qi ZY, Hui GZ, Wang Z. Overweight, obesity and meningioma risk: a meta-analysis. PLoS One. 2014 Feb 26;9(2):e90167. doi: 10.1371/journal.pone.0090167. eCollection 2014. PubMed PMID: 24587258.

<sup>3)</sup>

Pettersson-Segerlind J, Mathiesen T, Elmi-Terander A, Edström E, Talbäck M, Feychting M, Tettamanti G. The risk of developing a meningioma during and after pregnancy. Sci Rep. 2021 Apr 28;11(1):9153. doi: 10.1038/s41598-021-88742-2. PMID: 33911184.

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