

Mitotane

Mitotane, sold under the brand name Lysodren, is a steroidogenesis inhibitor and cytostatic antineoplastic medication which is used in the treatment of adrenocortical carcinoma and [Cushing's syndrome](#).

It is a derivative of p,p'-DDT and an isomer of p,p'-DDD, and is also known as 1,1-(dichlorodiphenyl)-2,2-dichloroethane (o,p'-DDD).

Case series

28 patients with [Cushing's disease](#) (CD). aged 12.2 years [\pm 2.2].

Motte-Signoret et al. compared 9 patients treated with [mitotane](#) alone for at least 6 months to 13 patients cured after surgery. Primary outcomes were changes in growth velocity, [body mass index \(BMI\)](#) and pubertal development.

(1) Mitotane improved growth velocity z-scores ($-3.8 [\pm 0.3]$ vs $-0.2 [\pm 0.6]$), BMI z-scores ($2.1 [\pm 0.5]$ vs $1.2 [\pm 0.5]$ SD) and pubertal development. After 1 year on mitotane, the mean BMI z-score was not significantly different in both groups of patients. (2) Control of cortisol secretion was delayed and inconsistent with mitotane used as monotherapy. (3) Side effects were similar to those previously reported, reversible and dose dependent: unspecific digestive symptoms, concentration or memory problems, physical exhaustion, adrenal insufficiency, and hepatitis. (4) In one patient, progressive growth of a pituitary neuroendocrine tumor was observed over 40 months of mitotane treatment, allowing selective adenomectomy by TSS.

Low-dose mitotane can restore growth velocity and pubertal development and decrease BMI in children with CD, even without optimal control of cortisol secretion. It may promote pituitary tumor growth thus facilitate second-line TSS. However, given its possibly life threatening side effects (transient adrenal insufficiency and hepatitis), and in the absence of any reliable follow-up procedures, this therapy may be difficult to manage and should always be initiated and monitored by specialized teams ¹⁾.

¹⁾

Motte-Signoret E, Rothenbuhler A, Gaillard S, Lahlou N, Teinturier C, Coutant R, Linglart A. Mitotane (op'DDD) restores growth and puberty in nine children with Cushing's disease. Endocr Connect. 2018 Oct 1. pii: /journals/ec/aop/ec-18-0215.xml. doi: 10.1530/EC-18-0215. [Epub ahead of print] PubMed PMID: 30352417.

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Last update: **2024/06/07 02:51**

