

BROMOCRIPTINE

[ARCHIVED MONOGRAPH]

Use

Bromocriptine is used to treat galactorrhoea and cyclical benign breast disease. It was widely used for many years to suppress lactation after childbirth, but its use for this purpose is now discouraged.

Pharmacology

Bromocriptine mesylate is a semi-synthetic ergot derivative which acts as a dopamine receptor agonist. It functions therefore like the prolactin inhibitory factor in the hypothalamus to stimulate inhibitory dopamine receptors. This results in prolactin release being inhibited and growth hormone release being modestly stimulated (although, paradoxically it inhibits growth hormone release in acromegaly for reasons that are not entirely clear). The drug is 90% absorbed when given by mouth. It is metabolised by the liver with a half-life of 2–3 days, and excreted largely in the bile. It first came into general use for the management of Parkinson's disease in 1974 (although it is now only used in patients who do not respond to levodopa). Bromocriptine is now mainly used in the treatment of prolactinomas (a pituitary tumour), and of hyperprolactinaemia causing amenorrhoea. Fertility and cyclical ovarian function are usually restored within two months. Multiple ovulation has not been reported. The drug should be stopped at once if pregnancy occurs (though there are no reported cases of malformation). If hyperprolactinaemia is associated with the presence of a prolactinoma there is a risk of visual field defects developing during pregnancy because of tumour enlargement.

Effect on lactation

Milk formation during late pregnancy occurs under the combined stimulus of oestrogens, prolactin (placental lactogen) and progesterone. Insulin and cortisol may also have a role. Oestrogens antagonise the effects of prolactin on milk secretion and lactation is stimulated when oestrogen levels fall after delivery.

Oestrogens were once used widely to suppress lactation in the puerperium, but they were found to be relatively ineffective, and to increase the risk of potentially life threatening thromboembolism. Trials undertaken between 1972 and 1984 then showed bromocriptine to be a more effective alternative. However most drug trials only looked at the immediate effect of drug treatment and there is some evidence that although bromocriptine reduces pain, engorgement and milk production one week after delivery more than a breast binder, the situation is reversed two weeks later.

More recently, reports have appeared of mothers having seizures, strokes, heart attacks and sudden severe hypertension while taking bromocriptine to suppress lactation. It is difficult to know whether these problems were caused by the use of bromocriptine. Problems were, however, reported with sufficient frequency for the manufacturers to stop recommending the use of bromocriptine to suppress lactation in 1994. Since discomfort is only a transient problem there can seldom be a case for using **any** drug to suppress lactation in most mothers, but its use may still, perhaps, be justified in certain situations. Continued milk production can certainly cause acute anguish to a few mothers coping with a stillbirth or early neonatal death. If bromocriptine is used for this purpose, treatment should certainly be stopped at once if the mother experiences any severe headache or visual disturbance.

Cabergoline (q.v.) is a more recently introduced analogue with a longer half life. It seems to be relatively free from the problems associated with the use of bromocriptine to suppress lactation, but that may be, in part, because it has been less widely used. Give a single 1 mg dose of this drug by mouth soon after delivery, or four 250 mg doses at 12 hour intervals.

Treatment

Bromocriptine 2.5 mg twice a day for 2 weeks speeds the suppression of lactation, although milk production almost always increases again for a time after treatment is stopped.

Supply

2.5 mg tablets of bromocriptine (costing 18p each) are available from the pharmacy, as are 500 microgram scored tablets of cabergoline (which cost £3.70 each).

References

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