

APO-GO® Apomorphine hydrochloride
ABBREVIATED PRESCRIBING INFORMATION

Consult Summary of Product Characteristics before prescribing.

Uses: The treatment of disabling motor fluctuations ("on-off" phenomena) in patients with Parkinson's disease which persist despite individually titrated treatment with levodopa (with a peripheral decarboxylase inhibitor) and/or other dopamine agonists. **Dosage and Administration:** Apomorphine hydrochloride is administered subcutaneously either as an intermittent bolus injection or by continuous subcutaneous infusion. Its rapid onset (5-10 mins) and duration of action (about 1 hour) may prevent an "off" episode which is refractory to other treatments. Hospital admission under appropriate specialist supervision is necessary during patient selection and when establishing a patient's therapeutic regime. Please refer to the Summary of Product Characteristics for full details before initiating therapy. Treatment with domperidone (typical dosage 20mg three times a day) before and during apomorphine HCl therapy is essential. The optimal dosage of apomorphine HCl has to be determined on an individual patient basis; individual bolus injections should not exceed 10mg and the total daily dose should not exceed 100mg. **Contraindications:** Children and adolescents (up to 18 years of age). Known sensitivity to apomorphine or any other ingredients of the product. Respiratory depression, dementia, psychotic disease or hepatic insufficiency. Intermittent apomorphine HCl treatment is not suitable for patients who have an "on" response to levodopa which is marred by severe dyskinesia or dystonia. **Pregnancy and lactation:** Apomorphine should not be used in pregnancy unless clearly necessary. Breast-feeding should be avoided during apomorphine HCl therapy. **Interactions:** Patients should be monitored for potential interactions during initial stages of apomorphine therapy. Particular caution should be given when apomorphine is used with other medications that have a narrow therapeutic window. It should be noted that there is potential for interaction with neuroleptic and antihypertensive agents. **Precautions:** Use with caution in patients with renal, pulmonary or cardiovascular disease, or who are prone to nausea or vomiting. Extra caution is recommended during initiation of therapy in elderly and/or debilitated patients. Since apomorphine may produce hypotension, care should be exercised in patients with cardiac disease or who are taking vasoactive drugs, particularly when pre-existing postural hypotension is present. Neuropsychiatric disturbances are common in Parkinsonian patients. APO-go should be used with special caution in these patients. Apomorphine has been associated with somnolence and other dopamine agonists can be associated with sudden sleep onset episodes, particularly in patients with Parkinson's disease. Patients must be informed of this and advised to exercise caution whilst driving or operating machines during treatment with apomorphine. Haematology tests should be undertaken at regular intervals as with levodopa with given concomitantly with apomorphine. Pathological gambling, increased libido and hypersexuality have been reported in patients treated with dopamine agonists, including apomorphine. Apomorphine has been associated with local subcutaneous effects that can be reduced by rotation of injection sites or use of ultrasound on areas of nodularity and induration. **Side Effects:** Local induration and nodules (usually asymptomatic) often develop at subcutaneous site of injection leading to areas of erythema, tenderness, induration and panniculitis. Irritation, itching, bruising and pain may also occur. Rarely injection site necrosis and ulceration have been reported. Pruritus may occur at the site of injection. Drug-induced dyskinesias during "on" periods can be severe, and in a few patients may result in cessation of therapy. Postural hypotension is seen infrequently and is usually intransient. Transient sedation following each dose of apomorphine may occur at the start of therapy, but this usually resolves after a few weeks of treatment. Dizziness and light-headedness have also been reported. Nausea and vomiting may occur, particularly when APO-go treatment is initiated, usually as a result of the omission of domperidone. Neuropsychiatric disturbances (including transient mild confusion and visual hallucinations) have occurred during apomorphine therapy and neuropsychiatric disturbances may be exacerbated by apomorphine. Positive Coombs' tests and haemolytic anaemia and thrombocytopenia have been reported in patients receiving apomorphine and levodopa. Local and generalised rashes have been reported. Eosinophilia has occurred in only a few patients during treatment with apomorphine HCl. Patients treated with dopamine agonists, including apomorphine, have been reported as exhibiting signs of pathological gambling, increased libido and hypersexuality (especially at high doses). Apomorphine is associated with somnolence. Yawning and breathing difficulties have been reported as has peripheral oedema. Prescribers should consult the Summary of Product Characteristics in relation to other side effects. **Presentation and Basic NHS Cost:** Apo-go ampoules contain apomorphine hydrochloride 10mg/ml, as follows: 20mg in 2ml – basic NHS cost £37.96 per carton of 5 ampoules. 50mg in 5ml – basic NHS cost £73.11 per carton of 5 ampoules. APO-go pens (disposable multiple dosage injector system) contain apomorphine hydrochloride 10mg/ml, as follows: 30mg in 3ml – basic NHS cost £123.91 per carton of 5 pens. APO-go Pre-filled syringes contain apomorphine hydrochloride 5mg/ml, as follows: 50mg in 10ml – basic NHS cost £73.11 per carton of 5 syringes. **Marketing Authorisation Numbers:** APO-go Ampoules: PL04483/0064. APO-go Pens: PL04483/0065. APO-go Pre filled syringes: PL05928/0025. **Legal Category:** POM. **Date of last revision:** September 2009. For further information please contact: Britannia Pharmaceuticals, Park View House, 65 London Road, Newbury, Berkshire, RG14 1JN, UK.

Adverse events should be reported.
Reporting forms and information can be found
at www.yellowcard.gov.uk.
Adverse events should also be reported to
Medical Information on 0870 851 0207 or
drugsafety@britannia-pharm.com

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Illusory Visual Spread or Visuospatial Perseveration



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Another very sudden psychic experience was seeing the aura of a dog... The dog was a black labrador, fat and glossy. I was walking into the village when suddenly he appeared with a bluish-lilac halo all round him in pure daylight. ...I was not frightened but ...strangely delighted ...and coming back from the shop, was disappointed to see the dog a plain black body again without his incandescent background.¹

This extract might initially prompt concerns in some readers about the author's mental health. Certainly Margiad Evans (1909-1958) did suffer from epilepsy, symptomatic of an underlying brain tumour, which blighted her creative powers in the last years of her life.² However, this description from her book describing her experience of epilepsy may well represent an account of a form of visual perseveration known as illusory visual spread or visuospatial perseveration.

Critchley noted a number of unusual subjective visual experiences which might fall under the rubric of "visual perseveration", viz.³

- The hallucinatory and recurring appearance of an object after its removal, in other words palinopsia;
- Visual perseveration *in sensu strictu*, when a disappearing visual stimulus does not fade from view; however, there is no recurrence of the visual image as in palinopsia;
- Illusory visual spread or visuospatial perseveration: the visual stimulus is sensed over an unduly extensive area of environmental space, especially with images of vivid pattern or hue.

The example Critchley gives of illusory visual spread, which is apparently the rarest form of visual perseveration, is of the colour of a bright frock extending to the wearer's face, arms, legs and for a distance beyond. He also reports a case (Case 1) in which this phenomenon occurred at the onset of a migraine. Illusory visual spread has no temporal factor, for when the stimulus is removed the effect disappears.

What mechanism(s) might explain illusory visual spread? My sketchy knowledge of visual neurophysiology is that the brain undertakes parallel processing of various visual attributes (shape, colour, etc), and that some form of "binding" must occur to ensure a coherent, comprehensible visual percept with all these attributes. Perhaps a transient breakdown of this binding process, of colour to shape, might account for the phenomenon of illusory visual spread? ♦

See the next issue of ACNR for a comment on this article by Dominic Ffytche

REFERENCES

1. Evans M. *A ray of darkness*. London: John Calder, 1978 [1952]:162.
2. Larner AJ. "A ray of darkness": Margiad Evans's account of her epilepsy (1952). *Clin Med* 2009; 9:193-4.
3. Critchley M. *The divine banquet of the brain and other essays*. New York: Raven Press, 1979:149-55.