How do you convert from co-beneldopa (Madopar®) prolonged-release capsules to dispersible tablets?

Prepared by UK Medicines Information (UKMi) pharmacists for NHS healthcare professionals

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Background

Co-beneldopa (levodopa/benserazide) is available as standard release capsules, dispersible tablets and prolonged-release capsules. All three preparations are indicated for the treatment of parkinsonism (1,2,3,4).

For patients taking the prolonged-release preparation of co-beneldopa (Madopar® CR), there may be clinical situations when an alternative formulation of co-beneldopa needs to be considered e.g. if swallowing difficulties develop. This Medicines Q&A discusses the therapeutic options available.

Answer

Prolonged-release co-beneldopa capsules (Madopar® CR capsules 125)
The controlled release properties of the Madopar® CR preparation lie inside the gelatine capsule, which contains a matrix consisting of the active drug and excipients (5). These capsules must not be opened prior to administration (6,7). This preparation is therefore not suitable for administration to patients with swallowing difficulties, as it must be swallowed whole (4). It is also unsuitable for administration via enteral feeding tubes (8).

Standard co-beneldopa capsules (Madopar® Hard Capsules)
No specific data have been found on opening standard Madopar® hard capsules prior to administration. Whilst there are no special properties in the capsule shell, no stability data are available once the capsules have been opened (6,8) and, therefore, once opened, the contents should be used immediately (6). Anecdotal reports suggest that the capsule contents taste unpleasant (6). However, opening Madopar® hard capsules is an unlicensed method of administration (6) and is therefore the responsibility of the prescriber.

This preparation is therefore not a suitable alternative to Madopar® CR capsules.

Co-beneldopa dispersible tablets (Madopar® Dispersible)
This is the co-beneldopa formulation of choice for patients who are no longer able to swallow co-beneldopa prolonged-release capsules (Madopar® CR) (3,6,7,8). Each tablet should be dispersed in at least 25ml water or dilute orange squash, but orange juice should not be used (3).

As the dispersible tablets have a faster onset of action and shorter duration of action than the prolonged-release formulation, a direct dose substitution cannot be made (7). There is no specific information on switching patients from co-beneldopa prolonged-release capsules (Madopar® CR) to co-beneldopa dispersible tablets (Madopar® Dispersible) in the Summaries of Product Characteristics (3,4,6). No published data are available and the manufacturer of Madopar® has not conducted any formal studies. However, the manufacturer suggests that an average dose reduction of 33% may be appropriate when switching from Madopar® CR (prolonged-release capsules) to Madopar® Dispersible tablets (6). The manufacturer states the following example (6):

“If a patient is on a dose of 600 mg Madopar® CR, and is being switched to standard Madopar®, on average, the patient's dose will be reduced by 33%. Therefore the patient's new dose will be approximately 400 mg standard Madopar® after titration. The dosage should be titrated every two to three days and a period of up to 4 weeks should be allowed for optimal dosage.”
The dosing frequency may also need to be increased (8). The most appropriate dose can only be decided by the treating physician, based on their knowledge of the patient’s history (6). Patients should be closely monitored and the dose and frequency of administration should be titrated to effect on an individual basis.

Summary

- Prolonged-release co-beneldopa capsules (Madopar® CR) are not suitable for administration to patients with swallowing difficulties (4) or via enteral feeding tubes (8).

- Co-beneldopa dispersible tablets (Madopar® Dispersible) are the co-beneldopa formulation of choice for patients who are no longer able to swallow co-beneldopa prolonged-release capsules (Madopar® CR) (3,6,7,8).

- Co-beneldopa dispersible tablets have a faster onset of action and shorter duration of action than the prolonged-release formulation so a direct dose substitution cannot be made (7). Whilst there is no specific information available, the manufacturer of Madopar® suggests that an average dose reduction of 33% may be appropriate when switching from Madopar® CR (prolonged-release capsules) to Madopar® Dispersible tablets (6). The dosing frequency may also need to be increased (8).

- The most appropriate dose can only be decided by the treating physician, based on their knowledge of the patient’s history (6). Patients should be closely monitored and the dose and frequency of administration should be titrated to effect on an individual basis.

Limitations

The information in this Medicines Q&A refers solely to the Madopar® brand of co-beneldopa preparations and converting from prolonged-release capsules to dispersible tablets only. The effect of food on the absorption of co-beneldopa has not been addressed.

References


Quality Assurance

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Search strategy
Medline (NHS Evidence): [(exp benserazide/ AND exp levodopa/) AND exp deglutition disorders/] (limited to human and English language)
Medline (NHS Evidence): exp benserazide/ AND exp levodopa/ AND exp biological availability/ AND exp delayed-action preparations/
Embase (NHS Evidence): exp benserazide plus levodopa/ AND exp dysphagia/ (limited to human and English language)
Embase (NHS Evidence): [(exp benserazide/ AND exp levodopa/) AND exp dysphagia/] (limited to human and English language)
Embase (NHS Evidence): exp benserazide plus levodopa/ AND exp delayed release formulation/ AND exp biological activity/
Embase (NHS Evidence): exp benserazide plus levodopa/ AND exp delayed release formulation/ (limited to human and English language)
Embase (NHS Evidence): exp benserazide plus levodopa/ AND exp delayed release formulation/ AND exp dispersible tablet (limited to human and English language)
Embase (NHS Evidence): exp benserazide plus levodopa/ AND exp dispersible tablet (limited to human and English language)
Micromedex
Electronic Medicines Compendium (accessed via http://www.medicines.org.uk/emc/)
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