Technology Guidance

Metformin extended release

for treating type 2 diabetes mellitus

Technology Guidance from the MOH Drug Advisory Committee

Guidance Recommendations

The Ministry of Health's Drug Advisory Committee has not recommended listing metformin extended release on the Standard Drug List (SDL) for treating type 2 diabetes mellitus because of limited clinical need and unfavourable cost-effectiveness compared with metformin immediate release.

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Factors considered to inform the recommendations for subsidy

Technology evaluation

1.1. The MOH Drug Advisory Committee ("the Committee") considered the evidence presented for the technology evaluation of metformin extended release for treating type 2 diabetes mellitus. The Agency for Care Effectiveness conducted the evaluation in consultation with clinical experts from the public healthcare institutions. Published clinical and economic evidence for metformin extended release was considered in line with its registered indication.

1.2. The evidence was used to inform the Committee's deliberations around four core decision-making criteria:

- Clinical need of patients and nature of the condition;
- Clinical effectiveness and safety of the technology;
- Cost-effectiveness (value for money) – the incremental benefit and cost of the technology compared to existing alternatives; and
- Estimated annual technology cost and the number of patients likely to benefit from the technology.

1.3. Additional factors, including social and value judgments, may also inform the Committee's subsidy considerations.

Clinical need

2.1. In local clinical practice metformin immediate release is used as first-line therapy for treating patients with type 2 diabetes mellitus in line with international clinical practice guidelines. The Committee acknowledged that metformin immediate release tablets are already listed on SDL and considered that there was limited clinical need for an additional formulation of metformin to be subsidised.

Clinical effectiveness and safety

3.1. The Committee reviewed the available clinical evidence and considered that metformin extended release was non-inferior to metformin immediate release in lowering HbA1c and fasting plasma glucose levels in patients with type 2 diabetes.

3.2. The Committee considered anecdotal accounts from clinicians that suggested patients may have fewer gastrointestinal (GI) side effects and improved treatment adherence with metformin extended release compared with the immediate release formulation. However, the Committee noted that there was no significant difference in overall GI adverse events reported between patients receiving immediate release or extended release formulations in the available studies. Similarly, the Committee considered that there was insufficient evidence to draw any definitive conclusion about whether metformin extended release improved treatment adherence.

Cost effectiveness

4.1. No local published cost-effectiveness studies of metformin extended release were identified. The Committee acknowledged that metformin extended release was considered bioequivalent to the immediate release formulation by the PBAC (Australia) in 2005 and was recommended for subsidy on a cost minimisation basis.

4.2. In view of comparable efficacy and safety with the immediate release formulation, and given that the current cost prices for metformin extended release tablets are 5 to 12 times more expensive than the immediate release tablets, the Committee concluded that it was unlikely that metformin extended release would be cost effective in the local context.

Estimated annual technology cost

5.1. The Committee noted that the annual cost impact was estimated to be more than SG$5 million in the first year of listing metformin extended release on the SDL due to the large number of patients with type 2 diabetes in Singapore.

Recommendations

6.1. Based on available evidence, the Committee recommended not listing metformin extended release on the SDL in view of limited clinical need and unfavourable cost-effectiveness compared with metformin immediate release.

About the Agency

The Agency for Care Effectiveness (ACE) was established by the Ministry of Health (Singapore) to drive better decision-making in healthcare through health technology assessment (HTA), clinical guidance, and education.

As the national HTA agency, ACE conducts evaluations to inform government subsidy decisions for treatments, diagnostic tests and vaccines, and produces guidance for public hospitals and institutions in Singapore.

This guidance is based on the evidence available to the MOH Drug Advisory Committee as at 3 July 2020. It is not, and should not be regarded as, a substitute for professional or medical advice. Please seek the advice of a qualified healthcare professional about any medical condition. The responsibility for making decisions appropriate to the circumstances of the individual patient remains with the healthcare professional.

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