Glibenclamide

NOT RECOMMENDED AS AN ESSENTIAL MEDICINE

ATC codes: A10BB01

Indication	Type 2 diabetes mellitus ICD11 code: 5A11
INN	Glibenclamide
Medicine type	Chemical agent
List type	Core
Formulations	**Oral > Solid:** 5 mg ; 2.5 mg
EML status history	First added in 1982 (TRS 685) Changed in 1984 (TRS 722) Removed in 1987 (TRS 770) Added in 1997 (TRS 882) Removed in 2013 (TRS 985)
Sex	All
Age	Adolescents and adults
Therapeutic alternatives	The recommendation is for this specific medicine
Patent information	Patents have expired in most jurisdictions Read more about patents.
Wikipedia	Glibenclamide
DrugBank	Glibenclamide (Glyburide)

Summary of evidence and Expert Committee recommendations

At its 18th meeting, the Expert Committee requested a review on the safety of sulfonylureas in elderly patients to determine whether updates to the EML were needed. The review was prepared by Mr Harinder Singh Chahal, Doctor of Pharmacy Candidate at the University of California – San Francisco, San Francisco, CA, USA. Expert reviews were prepared by Mr Andrew Gray and Dr Kuruvilla Prasad Mathews. Comments were received from Dr Shanthi Mendis, Director, Management of Noncommunicable Diseases, WHO, and Dr Myriam Henkens, International Medical Coordinator, Médecins Sans Frontières. The estimated worldwide prevalence of diabetes in the elderly population (60 years and above) is 18.6% or 134.6 million people (1). In 2013 the Expert Committee noted that the EML listed only glibenclamide from the sulfonylurea category. Elderly patients are a signicant proportion of type II diabetics and the safety of sulfonylureas in this group is therefore important. The review evaluated the comparative safety and efficacy of four second- generation sulfonylureas for the treatment of type 2 non-insulin dependent diabetes in elderly patients. The medications reviewed were glibenclamide (also called glyburide), gliclazide, glimepiride and glipizide. The review also analysed the cost of the four medications as well as their availability on the national essential medicines lists of 40 low- and middle-income countries. A 2007 meta-analysis of 21 studies showed that, on the basis of HbA1c results, glibenclamide compared with other sulfonylureas – including gliclazide, glimepiride and glipizide – did not have an increased efficacy in the treatment of diabetes (2). The same meta-analysis showed that there was an increased risk of hypoglycaemia of 52% with glibenclamide when compared with other insulin- secreting anti-diabetes medicines and an 83% higher risk

compared with other sulfonylureas (2). A retrospective cohort study of more than 13 000 patients concluded that glibenclamide had the highest rate of hypoglycaemia at 16.9 per 1000 person- years, compared with all other sulfonylureas (3). The authors also concluded that the physiological changes associated with increasing age, such as declining renal and hepatic function, as well as polypharmacy and concurrent illnesses, additionally predispose elderly patients to hypoglycaemia; this predisposition is further compounded by the use of glibenclamide. Another retrospective, cohort study of more than 33 000 patients in the United Kingdom showed that the risk of hypoglycaemia was higher with glibenclamide when compared with other sulfonylureas (4). The authors also concluded that patients older than 65 years were at higher risk of hypoglycaemia compared with adults less than 65 years of age with a relative risk of 1.27 (95% CI: 1.06–1.51). In the analysis of the national essential medicines lists, the most widely available second-generation sulfonylurea was glibenclamide, with an overall listing on 39 of the 40 national essential medicines lists (97.5%), followed by gliclazide and glipizide which were available on 50% and 27.5% of the national lists, respectively. The Expert Committee discussed the fact that all four sulfonylureas are available as generics, but there is considerable variation in price between countries and therefore it is not possible to make a clear decision on the basis of cost. However, glibenclamide appeared to be the cheapest in most countries. The Expert Committee decided that glibenclamide should be replaced in the core list with gliclazide (30 mg, 60 mg, 80 mg), with a square box symbol as the example of a second-generation sulfonylurea, and that a note should be added to the effect that glibenclamide should not be used in patients aged 60 years and older. References: 1. IDF diabetes atlas, 6th edition. Brussels: International Diabetes Federation; 2013 (http://www.idf. org/diabetesatlas/6e/diabetes, accessed 27 November 2013). 2. Gangji AS, Cukierman T, Gerstein HC, Goldsmith CH, Clase CM. A systematic review and meta- analysis of hypoglycemia and cardiovascular events: a comparison of glyburide with other secretagogues and with insulin. Diabetes Care. 2007;30(2):389-94. http://dx.doi.org/10.2337/ dc06-1789 PMID:17259518 3. Shorr RI, Ray WA, Daugherty JR, Gri n MR. Individual sulfonylureas and serious hypoglycemia in older people. J Am Geriatr Soc. 1996;44(7):751-5. PMID:8675920 4. van Staa T, Abenhaim L, Monette J. Rates of hypoglycemia in users of sulfonylureas. J Clin Epidemiol. 1997;50(6):735-41. http://dx.doi.org/10.1016/S0895-4356(97)00024-3 PMID:9250272

