Service Priorities and Programmes

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Submitting author: Miss Sharon CHOW
Post title: Pharmacist, NLTH, KWC

Drug Utilization Evaluation of Dipeptidyl peptidase-4 (DPP-4) Inhibitors in North Lantau Hospital

Ng V (1), Chow S L (1), Cheung E (1)
(1)Department of Pharmacy, North Lantau Hospital

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Introduction

Dipeptidyl peptidase-4 (DPP-4) inhibitors belong to a class of oral diabetes drugs. The inhibition of DPP-4 decreases the degradation of incretin hormone including glucose-dependent insulinotropic polypeptide and Glucagon-like peptide-1, resulting in glucose-dependent insulin secretion and suppression of glucagon secretion. DPP-4 inhibitors are classified as special drug in HA Drug Formulary (HADF) with indication as either (1) Alternative to insulin after failure of optimal doses of Sulphonylurea (SU) and metformin, or optimal doses of SU if metformin is intolerable/contraindicated, discontinue if fail to achieve HbA1c<8% within 6-8 months; or (2) Adjunctive to insulin to optimize control, discontinue if fail to achieve HbA1c<8% within 6-8 months.

Objectives

(1) To evaluate the adherence to the exit criteria of HADF indication “discontinue if fail to achieve HbA1c<8% within 6-8 months” for prescribing DPP-4 inhibitors in NLTH; (2) To evaluate the reasons of non-compliance to HADF indication after 6-8 months despite failure to achieve target HbA1c level.

Methodology

All patients who had been prescribed DPP-4 inhibitors between 1st April 2017 and 31st July 2017 in NLTH were included. Cases with DPP-4 inhibitors prescribed as self-financed item, patient deceased or treatment duration less than 8 months were excluded. Medical records in Clinical Management System and Electronic Patient Record were reviewed.

Result

Among the 387 cases reviewed by pharmacists, there were 339 cases (87.6%) with DPP-4 inhibitors indicated as alternative to insulin, 35 cases (9.0%) indicated as adjunctive to insulin and 13 cases (3.4%) indicated as others. 257 out of 387 cases (66.4%) complied with the exit criteria of HADF indication for DPP-4 inhibitors. Among the remaining 130 cases, 13 cases (10%) did not check HbA1c within 6-8 months after initiation of DPP-4 inhibitors, 65 cases (50%) refused insulin after treatment

failure and 48 cases (37%) with reasons for treatment continuation not documented.
Conclusion:
From the findings, two-third of the cases complied with HADF indication for DPP-4 inhibitors. The result was reported at the local Drugs and Therapeutics Committee and promulgated at the unit meetings of concerned clinical departments. Further plans for pharmacists' involvement in the multidisciplinary diabetic clinic on treatment review and patient empowerment on insulin treatment would enable optimization of drug treatment and improvement on patients' outcomes.