PHARMACEUTICAL CARE NETWORK EUROPE

Working Conference 2013 – Abstract

Collaborative pharmaceutical care in research and practice

Title/Name	:	Dr. Pilar Modamio	Phone	:	++34934024544
Institute	:	Clinical Pharmacy and Pharmacotherapy Unit. Faculty of Pharmacy. University of Barcelona.	Fax	:	++34934035714
Street	:	Av. Joan XXIII s/n	Skype	:	
Postal code + City	:	08028 Barcelona			
Country	:	Spain	Email address	:	pmodamio@ub.edu

The above mentioned participant in the PCNE WC 2013 wishes to submit following abstract for a poster or oral communication. If accepted and presented, the abstract will be published in the International Journal of Clinical Pharmacy. Please make sure the abstract is no longer than 350 words, excl. author-details.

Title: ROLE OF RESISTANCE TO ERYTHROPOIETIN STIMULATING AGENTS IN HAEMODIALYSIS PATIENTS

Author(s): Noguer-Martorell M (1), Quiñones C (2), Modamio P (1), Sans R (3), Lastra CF (1), Mariño EL (1)

(1) Clinical Pharmacy and Pharmacotherapy Unit. Dept. of Pharmacy and Pharmaceutical Technology, University of Barcelona, Barcelona, Spain.

(2) Hospital Pharmacy Department, Figueres Hospital, Girona, Spain.

(3) Nephrology Department, Figueres Hospital, Girona, Spain.

Type of abstract:

x Research ☐ Practice development ☐ Practice implementation

Aim of project/study: The optimal dosage of erythropoietin stimulating agents (ESAs) seems to be highly variable. However, the safety of this group of drugs at inappropriately high doses is a major concern, making early detection of ESA resistance desirable. The aim of this study was to determine both the occurrence and causes of resistance to ESAs in haemodialysis patients, in order to optimise the effect based on the clinical outcome.

Method: Design: Cross-sectional, retrospective study. Setting: County hospital. Sample of study: Patients on haemodialysis and treated with ESAs for anaemia associated with chronic kidney disease, for a minimum of three months. Study variables: Age, gender, type of ESA and dosage, haemoglobin levels (Hb, g/dl) and resistance index (ERI) calculated as ESA dose (IU)/weight (kg)/week divided by a given value of Hb concentration (g/dl) and used to establish the relationship between the dose and effectiveness (Hb: 11-12 g/dl)[(1)]. Main potential risk factors assessed for resistance: Kt index (haemodialysis adequacy), serum ferritin (ng/dl), transferrin saturation (TS, %), intact parathyroid hormone (iPTH, pg/ml), C-reactive protein (CRP, mg/l), comorbidity and other medications.

Result(s): Forty-eight patients (60.4% male) were treated with ESAs for almost eight months. Median age was 66.9 years (range 28-84). Most patients (86.6%) received epoetin β and 13.4% darbepoetin α. Only 17 patients received recommended doses (≤ 125 IU/kg/week): six reached Hb target, nine overdosed (Hb >12 g/dl), and two had Hb <11 g/dl, both of whom

presented two risk factors: low TS and high CRP levels.
Thirty-one patients received >125 IU/kg/week: six reached Hb target, twenty overdosed, and five had Hb <11 g/dl. These five were found to be resistant according to ERI and the risk factors observed were: one inadequate Kt index; all presented low serum ferritin (<100 ng/ml) and TS (<20%). High iPTH levels were found in four patients and high CRP levels in three. Only one case of diabetes mellitus was observed.

Conclusion: Most patients exceeded the upper limit of the recommended target Hb. Five patients were found to be resistant, with at least low serum ferritin as risk factors. Individual evaluation of ESA resistance should be conducted in haemodialysis patients.

Reference:
(1)Bamgbola OF. Kidney Int. 2011;80:464-74.

+++ NB: PhD students still pay the early bird fee for their abstract if their abstract is accepted ++++