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Use of Erythropoiesis Stimulating Agent (ESA) in HKWC renal palliative care patients

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Introduction

Anemia is common in renal palliative care patients. Erythropoiesis Stimulating Agents (ESAs) have been shown to correct anemia, decrease the number of hospital admissions and mortality in both pre-dialysis Chronic Kidney Disease (CKD) patients and End Stage Renal Disease (ESRD) patients on dialysis. However, there is a paucity of evidence regarding the use of ESAs in renal palliative care patients.

Objectives

to investigate the effect of ESA on hemoglobin (Hb) level, number of hospital admissions, number of blood transfusions and mortality rate in ESRD patients not on dialysis.

Methodology

This was a retrospective study of 2 groups of consecutive renal palliative care patients in HKWC from April 2011 to January 2013. Inclusion criteria included renal palliative care patients with symptomatic anemia. Patients with anemia due to bleeding, cancer or causes other than renal anemia were excluded. In the treatment group, ESA, in form of either Continuous Erythropoietin Receptor Activator (CERA) or darbepoetin alfa, was administered and its dosage titrated according to Hb levels. Patients in the control group did not receive ESA. Blood transfusion as required was allowed in both groups. Patients were followed up every month with blood counts recorded.

Result

A total of 69 patients were found to have symptomatic anemia during this period; 12 were excluded according to the study methodology. There were 28 patients in the control group and 29 in the ESA group. For ESA group, the mean age was 81 years old (range 66-93). 59% of patients were female. Causes of ESRD included diabetes

mellitus (51.7%), glomerulonephritis (13.8%) and unknown causes (20%). For the control group, they have similar demographic characteristics. Baseline mean plasma creatinine level was 606.4+/-210.9 umol/L for ESA group and 607.6+/-285.2 umol/L for the control. All patients had creatinine clearance < 15ml/min (CKD 5). Mean Hb was 7.5+/-0.72 g/dL for ESA group and 7.8+/-0.73 g/dL for control group. Mean Hb was raised significantly after 3 months and 6 months of ESA injections (9.5 and 9.0 g/dL, $p<0.05$). Compared with control group , number of admissions per patient and mortality rate after 6 months of ESA injection were significantly reduced ($p=0.014$ and $p=0.022$ respectively). This study demonstrated that use of ESA in renal palliative care patients was effective in raising Hb level, reducing number of admissions and might confer a survival benefit.