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Comparison of Efficacy and Safety of Epoetin Alfa and Epoetin Beta in Continuous Ambulatory Peritoneal Dialysis Anemic Patients

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SUMMARY. **Anemia is a very common complication in patients with chronic kidney disease (CKD) and its main etiology is due to the decrease in renal production of erythropoietin (EPO). The two most commonly used Erythropoietin-stimulating agents (ESAs) in Malaysian public hospitals are Epoetin alfa (Eprex®) and Epoetin beta (Recormon®). This study aims to compare the efficacy and safety of Eprex® and Recormon® in continuous ambulatory peritoneal dialysis (CAPD) anemia patients. This is a retrospective study included 72 CAPD patients in Hospital Serdang receiving Eprex® (n = 36) and Recormon® (n = 36) to maintain target Hb at 11-12 g/dL. Hb, Hct, ferritin and blood pressure (BP) levels at baseline and upon achieving target Hb were measured for each patient. The weekly EPO Index (defined as weekly epoetin dose/mean monthly Hct) and Erythropoietin Resistance Index (ERI) (defined as weekly weight-adjusted epoetin dose/Hb level) were derived for each patient at baseline, at target and at the end of 6th month follow-up, to evaluate ESA dose-response. There was no significant difference between the two preparations in terms of mean target Hb (p = 0.805) and Hct (p = 0.720) levels achieved. EPO index similarly decreased from baseline values in both groups. Analysis showed no significant difference on EPO index and ERI in both Eprex® and Recormon® group. However, percentage of patients improved from moderate stage of anemia was higher in Recormon® (55.6%) as compared to Eprex® (39.7%) group. Sub-analysis showed female gender and lower albumin were correlated with higher ESA treatment resistance. This may explain the higher ESA index and ERI in Recormon® group, which showed higher percentage of female gender patients. There was no statistically significant correlation between ERI with baseline ferritin level (r = -0.065, p = 0.586). Both the mean change BP, and SBP at the end of 6th month follow-up were not significantly different between two groups. It was concluded that both efficacy and safety profile were not significantly different between Eprex® and Recormon® group.**

RESUMEN. La anemia es una complicación muy frecuente en pacientes con enfermedad renal crónica (ERC) y su principal etiología se debe a la disminución de la producción renal de eritropoyetina (EPO). Los dos agentes estimulantes de la eritropoyetina (AEE) más utilizados en los hospitales públicos de Malasia son Epoetin alfa (Eprex®) y Epoetin beta (Recormon®). Este estudio tiene como objetivo comparar la eficacia y seguridad de Eprex® y Recormon® en pacientes con anemia de diálisis peritoneal ambulatoria continua (CAPD). Este es un estudio retrospectivo que incluyó a 72 pacientes con CAPD en el Hospital Serdang que recibieron Eprex® (n = 36) y Recormon® (n = 36) para mantener la Hb objetivo en 11-12 g/dL. Se midieron los niveles de Hb, Hct, ferritina y presión arterial (PA) al inicio del estudio y al alcanzar el objetivo de Hb para cada paciente. El índice de EPO semanal (definido como dosis semanal de epoetina / Hct mensual medio) y el índice de resistencia a la eritropoyetina (ERI) (definido como dosis semanal de epoetina ajustada al peso/nivel de Hb) se derivaron para cada paciente

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al inicio, en el objetivo y al final de Seguimiento al sexto mes, para evaluar la dosis-respuesta de AEE. No hubo diferencias significativas entre las dos preparaciones en términos de niveles medios de Hb objetivo (p = 0,805) y Hct (*p* = 0,720) alcanzados. El índice de EPO disminuyó de manera similar con respecto a los valores iniciales en ambos grupos. El análisis no mostró diferencias significativas en el índice de EPO y el ERI en ambos grupos, Eprex® y Recormon®. Sin embargo, el porcentaje de pacientes que mejoraron desde la etapa moderada de anemia fue mayor en Recormon® (55,6%) en comparación con el grupo Eprex® (39,7%). El subanálisis mostró que el sexo femenino y una menor albúmina se correlacionaron con una mayor resistencia al tratamiento con AEE. Esto puede explicar el mayor índice ESA y ERI en el grupo Recormon®, que mostró un mayor porcentaje de pacientes del género femenino. No hubo correlación estadísticamente significativa entre el ERI con el nivel de ferritina inicial (r = -0,065, *p* = 0,586). Tanto el cambio medio de la PA como la PAS al final del sexto mes de seguimiento no fueron significativamente diferentes entre los dos grupos. Se concluyó que tanto el perfil de eficacia como el de seguridad no fueron significativamente diferentes entre el grupo Eprex® y Recormon®.