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**DRUG USE IN THE PERIOD OF HEMODIALYSIS IN CHILDREN WITH
END-STAGE RENAL DISEASE IN A MEXICAN PEDIATRIC HOSPITAL**

**CONSUMO DE FÁRMACOS EN EL PERIODO DE HEMODIÁLISIS EN
NIÑOS CON ENFERMEDAD RENAL EN ETAPA TERMINAL EN UN
HOSPITAL PEDIÁTRICO MEXICANO**



Área del Conocimiento: 3 Medicina y Ciencias de la Salud

Abstract

Chronic renal failure (CRF) requiring dialysis or transplantation is known as end-stage renal disease (ESRD). Several drugs are used in treating the symptoms, comorbid conditions and treatment side effects of ESRD. We performed a study to investigate the drug use during the period of hemodialysis in children with ESRD in the Hospital del Niño DIF, Pachuca, Hidalgo, Mexico. Data were collected from clinical expedients of the Hospital. The data included demographic, clinical data and those on drugs usage. A total of 13 patients were included. The average age of patients was 14.2 ± 2.1 years. Data were collected and 18 different drugs were given to the pediatric patients. The mean number of drugs during the period of hemodialysis was 1.3 ± 0.6 (1-4). Two-hundred sixteen doses of medication were administered in 130 hemodialysis sessions to the patients. The drugs most used were erythropoietin (42.7 %), followed by dextrose solution (18.9 %), calcium gluconate (10.4 %), iron dextran (9.1%) and nifedipine (5.5 %). Medications may be used to help control some of the issues associated with kidney failure or hemodialysis. Our study showed that few drugs are administered to children with ESRD during their period of hemodialysis.

Key words: Chronic Renal Failure



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Resumen

Insuficiencia renal crónica (IRC) que requiere diálisis o trasplante se conoce como enfermedad renal en etapa terminal (ESRD). Varios medicamentos se utilizan en el tratamiento de los síntomas, la comorbilidad y los efectos secundarios del tratamiento de la enfermedad renal terminal. Se realizó un estudio para investigar el uso de drogas durante el periodo de hemodiálisis en niños con enfermedad renal terminal en el Hospital del Niño DIF, Pachuca, Hidalgo, México. Los datos fueron recolectados a partir de expedientes clínicos del Hospital. Los datos que se incluyen datos demográficos, clínicos y aquellos sobre el uso de drogas. Un total de 13 pacientes fueron incluidos. La edad media de los pacientes fue de 14,2 \pm 2,1 años. Los datos fueron recolectados y 18 diferentes drogas fueron entregadas a los pacientes pediátricos. El número medio de fármacos durante el periodo de hemodiálisis fue de 1,3 \pm 0,6 (1-4). Doscientos dieciséis dosis de medicamentos se administraron en 130 sesiones de hemodiálisis a los pacientes. Los medicamentos más utilizados fueron la eritropoyetina (42,7%), seguido de solución de dextrosa (18,9%), gluconato de calcio (10,4%), hierro dextrano (9,1%) y nifedipina (5,5%). Se pueden utilizar medicamentos para ayudar a controlar algunos de los problemas asociados con la insuficiencia renal o hemodiálisis. Nuestro estudio mostró que algunos medicamentos se administran a los niños con enfermedad renal terminal durante el período de hemodiálisis.

Key words: Insuficiencia Renal Crónica



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Introduction

Healthy kidneys remove excess fluid, minerals and wastes. Renal failure is a situation in which the kidneys fail to function adequately. When kidney function has deteriorated and is no longer adequate to sustain life and the process is considered irreversible, renal replacement therapy—dialysis or transplantation—becomes necessary to maintain life. Chronic kidney failure, also called end-stage renal disease (ESRD), is the most feared consequence of kidney disease. Specific treatments are dependent upon the underlying diseases.

Our objective was performed a study to investigate the drug use during the period of hemodialysis in children with ESRD in the Hospital del Niño DIF, Pachuca, Hidalgo, Mexico.



METHODS

- Data were collected from charts of the Hospital del Niño DIF, Pachuca, Hidalgo, Mexico.
- The data included demographic, clinical data and those on drugs usage.
- A total of **13 patients** with ESRD were included



RESULTS

- A total of 13 patients (8 male and 5 female) were included.
- The average age of patients was 14.2 ± 2.1 years.
- The average number of hemodialysis sessions to the patients was 78.8 ± 1.9
- Data were collected and 18 different drugs were given to the pediatric patients.
- The mean number of drugs during the period of hemodialysis was 1.3 ± 0.6 (1-4).
- Two-hundred sixteen doses of medication were administered in 130 hemodialysis sessions to the patients.
- The most used were erythropoietin (42.7 %), followed by dextrose solution (18.9 %), calcium gluconate (10.4 %), iron dextran (9.1%) and nifedipine (5.5 %).



RESULTS



The mean age of patients was 14.2 ± 2.1 years

The mean weight of patients before hemodialysis was 41.8 ± 7.8 kg

The mean weight of patients after hemodialysis was 39.9 ± 7.4 kg

■ Male
■ Female

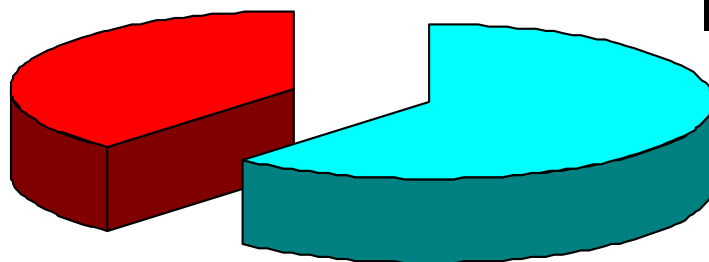


Figure 1. Percentage of female and male patients



RESULTS

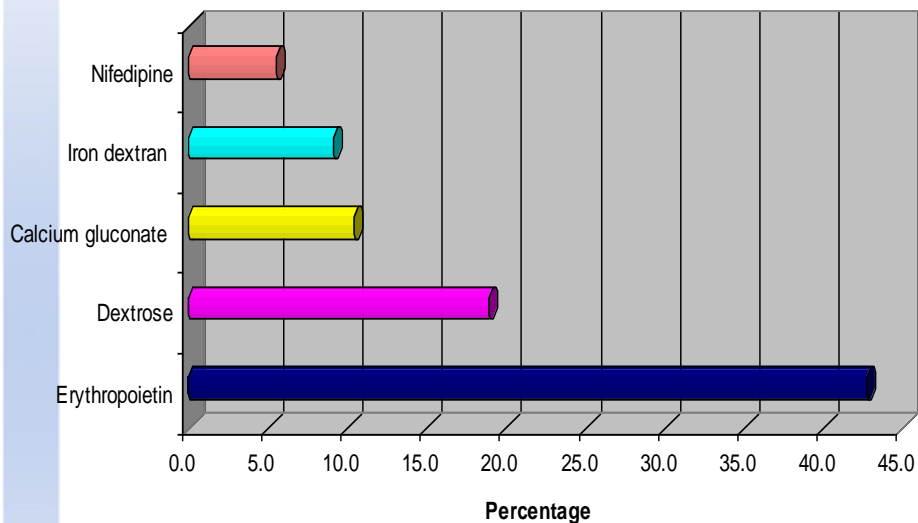


Figure 2. Drugs commonly used in the patients during hemodialysis

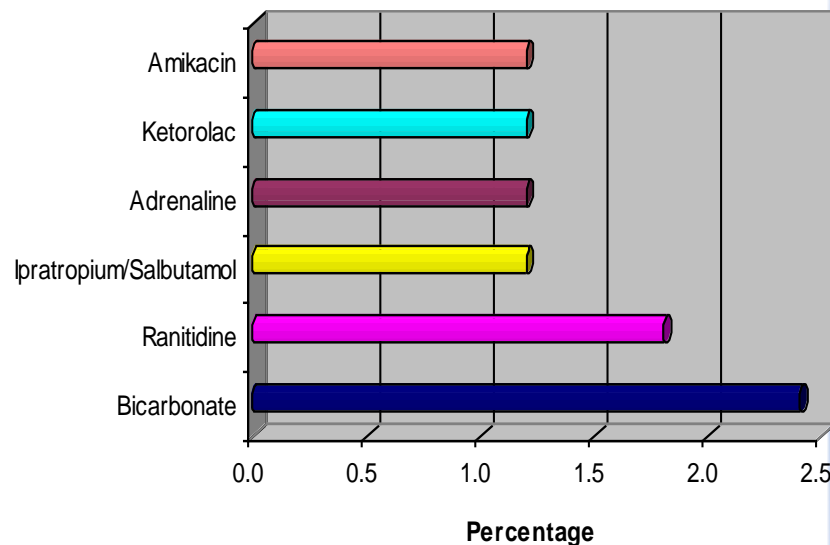


Figure 3. Drugs commonly used in the patients during hemodialysis



RESULTS

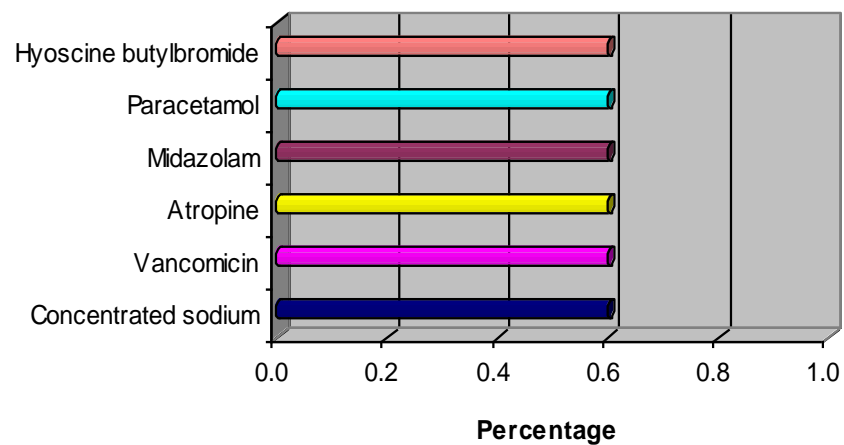


Figure 4. Drugs commonly used in the patients during hemodialysis



CONCLUSIONS

MEDICATIONS MAY BE USED TO HELP CONTROL SOME OF THE ISSUES ASSOCIATED WITH KIDNEY FAILURE OR HEMODIALYSIS.

OUR STUDY SHOWED THAT FEW DRUGS ARE ADMINISTERED TO CHILDREN WITH ESRD DURING THEIR HEMODIALYSIS PERIOD



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