

A new Co(II)-Coordination Polymer: Treatment and Nursing Application Value on Children Peptic Ulcer

Hai-Yun ZHU ¹, Chen-Xi LI ² & Xiao-Yan YU ³ *

¹ Department of Pediatrics, Xianyang Central Hospital, Xianyang, Shaanxi, China

² Queen Mary School, Nanchang University, Nanchang, Jiangxi, China

³ Department of Pediatrics, Wuwei People's Hospital, Wuwei, Gansu, China

SUMMARY. In the present study, via using the mixed-ligand synthesis approach, a new Co(II)-based coordination polymer (CP) with the chemical formula of $\{[\text{Co}(\text{iip})(4\text{bpmo})\cdot(\text{H}_2\text{O})]\cdot(\text{H}_2\text{O})\}_n$ (1) has been successfully prepared via reaction of $\text{Co}(\text{NO}_3)_2\cdot 6\text{H}_2\text{O}$ with the flexible bis-pyridyl-bis-amide ligand N,N'-bis(4-pyridylmethyl)oxalamide (4bpmo) in the aid of the carboxylic acid ligand 5-iodoisophthalic acid (H_2iip). For the treatment of peptic ulcer, the real time RT-PCR was conducted and the expression of proton pump receptor was measured. Then, the ELISA assay was conducted and the levels of inflammatory cytokines was measured.

RESUMEN. En el presente estudio, mediante el uso del enfoque de síntesis de ligandos mixtos, un nuevo polímero de coordinación (CP) basado en Co(II) con la fórmula química de $\{[\text{Co}(\text{iip})(4\text{bpmo}) (\text{H}_2\text{O})] (\text{H}_2\text{O})\}_n$ (1) se ha preparado con éxito mediante la reacción de $\text{Co}(\text{NO}_3)_2\cdot 6\text{H}_2\text{O}$ con el ligando bis-piridil-bis-amida flexible N,N'-bis(4-piridilmetil)oxalamida (4bpmo) con la ayuda del ligando de ácido carboxílico ácido 5-yodoisoftálico (H_2iip). Para el tratamiento de la úlcera péptica, se realizó la RT-PCR en tiempo real y se midió la expresión del receptor de la bomba de protones. Luego, se realizó el ensayo ELISA y se midieron los niveles de citoquinas inflamatorias.

KEY WORDS: coordination polymer, children peptic ulcer, ELISA, RT-PCR,

* Author to whom correspondence should be addressed. E-mail: yuxiaoyan1870@163.com