



Practice sting Dangerous dysregulation due to ciclosporin interaction with Panclamox®

Patients with confirmed *Helicobacter pylori* are treated with a course of two antibiotics and a stomach protecting medicine. The following notification shows that medication monitoring with combination packaging does not always go well.

Notification

A man admitted to a hospital for a haematological syndrome receives a stem cell transplant. As part of the stem cell transplant, he starts with ciclosporin. He is discharged after a week. On the day of discharge, the doctor prescribes a course of Panclamox® against *Helicobacter pylori*. However, the doctor does not notice the medicine monitoring signal about the interaction of clarithromycin with ciclosporin. In-hospital hematologists treat patients with ciclosporin every day after a stem cell transplant and monitor ciclosporin levels daily. Therefore, the pharmacovigilance signals about interactions with ciclosporin are less relevant for clinical patients. Panclamox® is delivered just before the patient is discharged in the weekend. The community pharmacy that supplies Panclamox® for the remaining period is also not taking any action. Six days later, the man enters the emergency room in a confused state. He has high potassium and blood sugar levels. After dialysis in the Intensive Care, he goes to the nursing ward.

Analysis

Panclamox® contains clarithromycin. Clarithromycin significantly increases the effective concentration of ciclosporin through an interaction with ciclosporin. This interaction may explain the symptoms with which the patient enters the hospital, because the ciclosporin level turned out to be much too high. The medication monitoring signal that the discharging physician received should have led to an adjustment of the course. Because the ciclosporin level is monitored, it has been agreed in the hospital that the hospital pharmacy will not call about medication monitoring signals with ciclosporin. The interaction of clarithromycin with ciclosporin should have been mentioned to the discharging physician. However, this was not yet included in the protocol 'Medication monitoring ciclosporine'. The community pharmacist assumed that the interaction had already been seen in the hospital.

Recommendations

For prescribers in hospital

- Assess the medication of patients taking ciclosporin before discharge. Take possible interactions into account and arrange additional monitoring of ciclosporin levels if necessary.

For all healthcare professionals

- Realize that clarithromycin is part of Panclamox®.
- Consider a wide range of clinically relevant interactions when using clarithromycin. Furthermore, ciclosporin has a narrow therapeutic window with a risk of toxicity.
- If necessary, contact the pharmacy for an alternative cure for eradication.

For hospital pharmacists

- Make clear agreements with medical specialists about the handling of medicine interactions with ciclosporin.

- Make sure that you can take exceptions into account, for example for medicines that are prescribed less frequently or if a patient is discharged in the very short term.

For community pharmacists

- Do not assume that medication monitoring signals that originated in the hospital have always been handled correctly for the home situation.
- In case of doubt, contact the hospital because in the home situation less possibilities are available to monitor the levels of ciclosporin.