

Abstract

Title: Comparing the nephrotoxic effects of cisplatin with docetaxel or 5-fluorouracil

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Purpose:

Cisplatin is commonly used in various chemotherapeutic regimens. However, cisplatin-induced nephrotoxicity is a common adverse effect associated with its use. Therefore, it is crucial to understand the nephrotoxic effects of certain cisplatin-based regimens. This study looks at two common cisplatin-based regimens and compares their extent of nephrotoxicity.

Methods:

This study was conducted via systematic review. Various articles were evaluated to determine the effect of nephrotoxicity when given cisplatin plus docetaxel or 5-fluorouracil (5-FU). Data was collected based on the number of patients experiencing nephrotoxicity with each drug regimen. In particular, we sought papers that classified nephrotoxicity based on the grading system set by the World Health Organization (WHO). Furthermore, these papers were assessed for quality using CONSORT and Newcastle Ottawa grading systems.

Results:

When looking at overall nephrotoxicity, those receiving Cisplatin and 5-FU experienced more nephrotoxicity. However, we found that Cisplatin in combination with Docetaxel experienced higher WHO grade nephrotoxicity than Cisplatin in combination with 5-FU. The Cisplatin and 5-FU treatment regimen experienced the most grade 1 nephrotoxicity. The Cisplatin and Docetaxel regimen experienced the most grades 2, 3, and 4 nephrotoxicities.

Conclusion:

We tested two commonly used cisplatin-based regimens to determine which regimen would produce the most nephrotoxicities. By searching various clinical trials and collecting the amount of patients who experienced nephrotoxicity, we found that patients treated with Cisplatin and 5-FU experienced slightly more nephrotoxicity than those treated with Cisplatin and Docetaxel. This means that patients treated with Cisplatin and 5-FU may need closer observation upon administration of this drug regimen to watch for any signs or symptoms of nephrotoxicity.