ORIGINAL RESEARCH PAPER

Nephrology

UTERINE CERVICAL CANCER AND HEMODALYSIS

KEY WORDS: uterine, cervical, cancer, hemodyalisis

Montes de Oca Gavilanez Lizbeth Maritza	Independent Author
Salinas González Daniela Carolina	Independent Author
Torres Segovia Stalin Fernando*	Independent Author*Corresponding Author
Cevallos Lopez Ivan Mauricio	Independent Author
Velasco Mora Sofia Alejandra	Independent Author
Tixilema Chimborazo Alba Alexandra	Independent Author
Macias Rivadeneira Edgar Alexander	Independent Author
Ayala Brito Rosa Guadalupe	Independent Author

ABSTRACT

SUMMARY: cervical cancer in Ecuador is a very frequent pathology among lower class and illiterate women, the little access to health services has caused them to arrive late for cancer treatment, so much so that they present with significant vaginal bleeding and masses tumors greater than 10cm in diameter with significant intake of parametria and therefore kidney failure, the reason for the following review is to determine the benefit of dialysis treatment in patients with locally advanced cervical cancer.

INTRODUCTION

Cervical carcinoma is currently the second leading cause of cancer death in women worldwide.

The underdeveloped or developing countries of Sub-Saharan Africa, Latin America and the Caribbean, and central regions of Southeast Asia are the ones with the largest number of cases in the world.

In underdeveloped countries about 70% of these cases present as locally advanced disease and 1: 3 of them with renal failure.

In many of these cases it is difficult to offer a definitive treatment since they present in uremia as a consequence of an obstructive uropathy, this is due to external compressions or malignant invasion of the lower ureters.

Obstructive uropathy occurs on several occasions in previously treated patients who did not have evidence of a recurrent disease, however, they developed hydronephrosis due to ureteral invasion in pelvic fibrosis.

Patients may be symptomatic or asymptomatic with elevated uric acid, urea, creatinine, and electrolytes.

Urinary diversion by percutaneous nephrostomy (PCN) is the most commonly practiced technique, not only because it restores kidney function, but also because it improves quality of life and allows most patients to receive tumor-specific palliative treatment and curative treatment in some well-defined cases.

There is no defined criterion for the use of PCN in patients with advanced cervical cancer who develop obstructive uropathy, the results are unpredictable in terms of recovering renal function and the benefits obtained by administering radiotherapy, surgery or chemotherapy.

Regarding this aggravating factor, chemotherapy management is difficult since the fundamental pillar is chemotherapy based on platinums themselves, which have been shown to present nephrotoxicity.

METHODS

A bibliographic review was carried out in English and Spanish in PUBMED, Science, Latindex, of a total of 70 bibliographic reviews, the search method was validated under the Caspe tool, 35 articles that did not comply with the characteristics of the research were rejected.

NEPHROTOXIC CISPLATINUM: Neoplastic pathologies are usually managed by chemotherapy, radiotherapy or surgical schemes.

Regarding pharmacological management, nephrotoxicity from antineoplastic treatment, regardless of the type of cancer, is a factor that limits the dose and / or its continuation. According to their mechanism of action, they are classified into 3 general groups: Cytotoxic Drugs, Hormones and others that attack specific targets.

At a general level, all antineoplastic drugs can generate adverse reactions that are explained by their antiproliferative action on normal tissues, but there are also specific adverse reactions of groups and drugs, such as nephrourological alterations.

Nephrotoxicity is a process by which the kidney is affected by toxins of chemical or natural origin, acting directly or through metabolites in the kidney, it can originate from the different routes of administration.

As a consequence, they can cause kidney failure, functional loss of kidney filtering capacity, or kidney necrosis.

This is because most cytostatics reach high concentrations in this organ.

In the case of cisplatin, it accesses the proximal renal tubule through the use of a specific transporter, as it is a substrate for the organic cation transporter (OCT), this transporter has three subtypes, subtype 1 being the one located in the liver while subtype 2 is found in the basolateral membrane of the renal proximal tubules.

Also important is the role that the Cooper transporter acquires from now on Ctr1 located in the adult kidney, specifically it is expressed in the cells of the basolateral membrane of the proximal tubule, which is responsible for maintaining homeostasis.

DIALYSIS AND CHEMOTHERAPY: Chemotherapy is a standard systemic treatment for malignant neoplasms, the efficacy of which has been reported in randomized studies in which an improvement in disease-free time and survival of this type of patients has been demonstrated; however, these clinical trials that demonstrate its efficacy, for the most part, include populations with normal renal function.

In this context, it is currently more common to observe nephropathic patients who develop cancer and vice versa.

Therefore, in recent years, the importance of involving Nephrology with Oncology has been valued.

There is a higher incidence of malignant neoplasms in HD patients compared to controls, and urogenital neoplasms have been observed to be the most prevalent in this population.

In addition, a recent epidemiological study evaluated the causes of mortality in patients with renal replacement therapy, among which cancer represents the third cause, with 20%, after cardiovascular events and infections.

Carcinogenesis in patients with hemodialysis could be explained by the increase in chronic oxidative stress —which damages cellular structures—, the alteration of the cellular immune system, exposures to viral infections and to medications administered in these patients.

ANALYSIS

In patients with ESRD on replacement therapy, the administration of chemotherapy is not contraindicated; however, these patients have been reported to have a high mortality rate from causes other than cancer compared to non-dialysis patients, as described by Funakoshi et al. in a retrospective study of 675 patients.

The multicenter CANDY (Cancer and Dialysis) study studied antineoplastic treatment in patients with chronic HD.

This study reported that 88% of the patients required specific management of the cytotoxic drug, 44% developed iatrogenic toxicity in relation to inappropriate dose adjustment due to the lack of management recommendations in this specific group of patients. that chemotherapy overdose was more frequently associated with hematological, gastric and neurological side effects. Since renal excretion plays an important role in the elimination of antineoplastic drugs, renal failure conditions the accumulation of the drug, which increases toxicity.

In contrast, some reports indicate a reduction in neurotoxicity in patients with non-Hodgkin lymphoma undergoing chemotherapy and with kidney failure who required HD.

The current challenge consists in establishing the role of the nephrologist when our patients on HD or acute renal failure have an indication for chemotherapy.

Above all, it must be borne in mind that each patient has a unique context: type of neoplasm, clinical stage, performance status and a type of drug indicated with established doses, specific pre- or post-HD administration time.

In daily practice, the clinical course of these patients is complex, given the little evidence in the literature on the management of cytotoxic drugs in patients with ESRD in HD: the optimal time of administration, dose adjustments based on the size of the molecule and pharmacokinetic behavior are poorly understood.

There is a small number of case series and expert opinions that do not reach a consensus on the subject, which is reflected in the few retrospective systemic reviews of some chemotherapeutic drugs that attempt to evaluate their pharmacokinetics and pharmacodynamics. In conclusion, this is a field under investigation and we must continue to study since having fibrosis due to infiltration of the parametria would require chemotherapy first and then management with radiotherapy after nephrectomy placement.

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