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Short communication

Anti-emetic efficacy of dexamtheasone in combination for out-patients receiving cytotoxic chemotherapy

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Summary. A single blind randomised trial of two different anti-emetic regimens (*A* and *B*) was performed in 26 patients with breast carcinoma undergoing emetic i. v. cytotoxic chemotherapy. They all received oral Motival (nortriptylene/fluphenazine) for 48 h after therapy and for regimen *A* received N-saline i. v. with their cytotoxics whilst for regimen *B* patients were given 16 mg dexamethasone i. v. Patients were given the alternative regimen at the subsequent course of treatment.

They were asked to assess overall nausea and number of vomiting episodes in the 24 h following therapy. There was a statistically significant reduction in both for the regimen containing dexamethasone. This agent causes few side effects and is particularly suited for out-patient use.

Introduction

Many anti-emetic agents, including phenothiazines [4], cannabinoids [8] and metoclopramide [6], have been used with some success in combating cytotoxic-induced nausea and vomiting. Unfortunately, these drugs can all induce a degree of sedation as well as other side effects. Sedation may be of benefit in an in-patient setting, but is troublesome and possibly dangerous to the out-patient. The patient's ability to return home by public transport or private vehicle may be impaired and road safety suffers accordingly.

The combination of nortriptyline and fluphenazine [7] (Motival) was found to be superior to a phenothiazine in the out-patient management of cytotoxic-induced emesis, and recently glucocorticoids, particularly dexamethasone [1, 3], have been reported to be useful anti-emetics with few side effects and little or no sedative action. The aim of this study was to examine the efficacy of dexamethasone as an additional anti-emetic agent in out-patient chemotherapy.

Patients, methods, and results

We studied 26 patients, all of whom had breast carcinoma and were undergoing emetic out-patient cytotoxic chemotherapy with CMF (cyclophosphamide, methotrexate, 5-fluorouracil), VAP (vincristine, adriamycin, prednisolone) or CVAP (cyclophosphamide, adriamycin, vincristine, prednisolone). Only two had received prior chemotherapy. Subjects in a single blind crossover design were randomised to receive two different anti-emetic regimens (*A* and *B*) with their first two courses of chemotherapy.

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Table 1. Incidence of nausea and vomiting in anti-emetic regimens *A* and *B* in 26 paired courses

Regimen	Degree of nausea	No vomiting	Any vomiting
A	50.8%*	7	19**
B	31.9%	15	11

* Nausea: paired *t*-test (on raw data) $P<0.01$
** Vomiting: χ^2 test (with Yates' correction) $P<0.02$

For both *A* and *B*, oral Motival (nortriptyline/fluphenazine) was given, the first tablet being taken during chemotherapy administration and thereafter one tablet three times daily for 48 h. Motival was used as a standard therapy based on previous unit practice. For regimen *A*, 4 ml N-saline was given i. v. with chemotherapy, whilst for *B*, 16 mg dexamethasone was injected i. v. At 24 h after therapy patients were requested to record the degree of nausea on a visual analogue scale and record the number of vomiting episodes since chemotherapy, using a standard questionnaire.

Twenty-six paired courses of chemotherapy were available for analysis (Table 1). Side effects related to dexamethasone were minimal, although in 40%–50% of patients perineal pain or warmth was experienced during rapid dexamethasone injection. Administration of dexamethasone in 50 ml saline by rapid infusion abolished this side effect.

Discussion

This study strongly supports the use of dexamethasone as an anti-emetic agent. The degree of nausea in the 24 h after chemotherapy was significantly reduced with regimen *B*, which contained dexamethasone. In only 4 of 26 paired courses did *B* have a higher nausea rating than *A* (*t*-test, $P<0.01$). Control of emesis was also significantly improved with regimen *B*, complete control occurring in 58% of treatments containing dexamethasone but in only 27% of the alternative regimen.

Patients experienced no major side effects attributable to dexamethasone. The perineal pain or warmth experienced by many women was abolished if the dexametha-

sone was given as a small-volume infusion. Its lack of sedation makes it an obvious choice as an anti-emetic agent particularly suited for out-patient use, and it can be given orally. It has shown significant activity in combination with high-dose metoclopramide in a controlled study [2], and in combination with lorazepam [5]. The optimal dose and schedule of dexamethasone remain to be determined, but it has proven efficacy and its role as an anti-emetic in cancer chemotherapy is increasingly recognised.

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