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An Investigation into the Current Management for Patients with Long-Term Withdrawal Periods from Drugs

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We conducted a research survey on the management of patients with long-term withdrawal periods from drugs. The drug Didronel® was chosen as an example of a medicine with a withdrawal period. Questionnaires regarding the management of long-term withdrawal periods were given to both doctors and pharmacists. During the withdrawal period from Didronel®, the majority of the confirmation methods used by doctors were oral in nature. However, most of doctors considered a more ideal confirmation method to be the use of a medication diary. In the hospital, advice regarding Didronel® administration for the patients was mostly performed by doctors, followed by pharmacists and/or both. Many pharmacists gave an oral explanation of the withdrawal period, but only 13% used a medication diary. As a result,the persons responsible for managing the withdrawal period remained unclear. Moreover, a mere 3% of the hospitals provided information to outside pharmacies for discharged patient.

Key words —— withdrawal period, Didronel®, medication diary, questionnaires to doctors and pharmacists

Introduction

Currently, certain drugs are administered periodically with extended intervals between administrations. These drugs, which include anticancer drugs, hormones, and antibody drugs, must be used with an appropriate withdrawal period to enhance efficacy and to mitigate against toxicity[1-3]. One such drug Didronel® PMO, comprising cyclical disodium etidronate and calcium carbonate, is the first choice of treatment for women with post menopausal osteoporosis[4,5]. In the standard treatment for osteoporosis Didronel® is administered for 2 weeks followed by a 10 week withdrawal, with this treatment repeated periodically every 3 months. This withdrawal period is needed to allow remodeling of bone after the modulation of proliferation resulting from administration of the drug. Such treatment with bisphosphonates is well accepted to provide effective prevention against bone loss[6-9]. However, it is difficult for one medical practitioner to monitor the long-term withdrawal pe-

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riod, especially when the patient is treated at more than one medical institution. Moreover, relatively little attention has been paid to the role and responsibilities of, and support structures for, the pharmacist who is monitoring the withdrawal period. It is thus important to survey all the participants in order to regulate the withdrawal period, and hence attempt to establish the most effective way to monitor the long-term intervals that occur in the patient's drug history.

This paper examines the role of the pharmacist in the monitoring of the withdrawal period of Didronel®, as an example of the group of outlined above. Didronel® selected for the present study because (1) the withdrawal period can be longer than the hospitalization period and (2) monitoring by the medical practitioner is especially important for elderly patients.

Methods

Questionnaires on the management of the withdrawal period were distributed to 40 university hospital pharmacies,and we obtained a response rate of 78%.

We questioned doctors and pharmacists on the best methods for monitoring the withdrawal period of patients, and ascertained that the medication history pocketbook is one of the confirmation methods.

The questionnaire format for doctors and pharmacists is shown as follows.

For doctors ;

1. How do you confirm the withdrawal period of Didronel® ?
2. What do you think constitutes the ideal method of monitoring ?
3. Who do you think is the most appropriate person to manage the entry of information into the medication history pocketbook ?
4. Do you have any other comments ?

For pharmacists ;

1. Is management of patient medication history for osteoporosis carried out in your hospital ?
2. Who provides medication advice on Didronel® for the patients ?
3. Do you explain the meaning of the withdrawal period ?
4. Do you explain the next administration time ?
5. Do you provide information of patient drug history to the outside pharmacy for outpatients ?

Results

Responses were obtained from the following medical departments : 50% orthopedics, 33% internal medicine, 10% obstetrics and gynecology, and 3% geriatric departments.

The responses from the doctors on the medication history management of Didronel® are listed in **Table 1**. For confirmation, when the patient is in the withdrawal period, the most frequent method was oral, followed by the use of a medication history pocketbook. From the result of item (c) in Table 1, various opinions were obtained from doctors regarding the most appropriate medical worker to make notations in the patient medication history pocketbook. Other differing opinions of doctors on management in the withdrawal period were also obtained as listed in **Table 2**.

The responses from the pharmacists are listed in **Table 3**. Thus, the medication history management of Didronel® was carried out in 39% of the hospitals investigated. From the results of item

Table 1. Results of Questionnaire to Doctors on the Management of the Withdrawal Period of Didronel® (Duplicated answers were allowded.)

(a) How do you confirm the withdrawal period of Didronel®?	
Orally	63%
Memorandum	7%
Medication history pocketbook	23%
Showing the tablet	3%
Others	23%
(b) What do you think constitutes the ideal method of monitoring?	
Orally	30%
Memorandum	10%
Medication history pocketbook	67%
Picture sheet	23%
Others	17%
(c) Who do you think is the most appropriate person to manage the entry of information into the medication history pocketbook?	
Attending doctor	30%
Pharmacists	17%
Doctor and/or Pharmacists	43%
Nurse	0%
Others	10%

Table 2. Comments and Results of Questionnaire from Doctors on the Management of Withderawal Period of Didronel®

(a) Attending doctor has confirmed it in the patient's chart.	17%
(b) Only the drugs for dosing period are prescribed.	3%
(c) Every time, only the attending doctor prescribes it, and records it in the patient's chart.	6%
(d) It is prescribed, only after the withdrawal period passes.	3%

(a-1) in Table 3, most hospitals also confirmed whether or not the patient was in the withdrawal period. However, fewer than 35% of pharmacists answered that the person responsible for monitoring the withdrawal period should be the pharmacist, pharmacist and/or doctor. In contrast, over 60 % of the doctors answered that pharmacists, doctors and/or pharmacists are adequate managers of the withdrawal period, as listed in Table 1.

It is important to explain to the patient the meaning of the withdrawal period and, in this regard, 58% of hospitals replied that they are conducting patient compliance instruction, as listed in item (c) in Table 3. In addition, the patient should be thoroughly instructed as to the next administration time, however, this was explained by only 61% of hospitals. Furthermore, most pharmacists replied that the attending doctor gives the explanation about the next administration time. With regard to the method of description, oral explanation was the most frequent, followed by memorandum.

Table 3. Results of Questionnaire to Pharmacists on the Management of Withdrawal Period of Didronel®

(a) Is management of patient medication history for osteoporosis carried out in your hospital ?
Yes 39% No 55% Others 6%(no answer, not in use)
For the pharmacist who answered the above question with yes. :
a-1) Is confirmation whether it is the withdrawal period or not is carried out ?
Yes 83% No 17%
a-2) Who carries out the management in the withdrawal period?

Attending doctor	50%
Pharmacists	0%
Doctor and/or Pharmacists	50%
Nurse	0%
Others	0%

(b) Who provides medication advice on Didronel® for the patients?

Attending doctor	61%
Pharmacists	13%
Doctor and/or Pharmacists	20%
Nurse	0%
Others	6%

(c) Do you explain the meaning of the withdrawal period?
Yes 58% No 39% Others 3%(no answer)
(d) Do you explain the next administration time?
Yes 61% No 36% Others 3%(no answer)
Who is participants?

Attending doctor	84%
Pharmacists	5%
Doctor and/or Pharmacists	11%
Nurse	0%
Others	0%

For the pharmacist who answered yes to the above question:
d-1) How do you explain the withdrawal period?

Orally	53%
Memorandum	27%
Medication history pocketbook	13%
Others	7%

(e) Do you provide information of patient drug history to the outside pharmacy for out-patients?
Yes 3% No 97%

Only 3% of hospitals provided any information for departing patients to the outside pharmacies as listed in item (e) in Table 3.

Other opinions obtained from pharmacists on management in the withdrawal period were as follows. With regard to the current situation : (a) in this hospital not all the Didronel®-administered

patients have been properly monitored (b) the doctor is handing the memorandum on the next administration time (c) since usage patterns vary, administration is entrusted to the attending doctor. With regard to the ideal situation : (a) it is necessary to give patient-compliance instructions regarding the meaning of the withdrawal period (b) in patients on long-term Didronel® administration, a unified method of medication history management is necessary (c) for drugs which require a complicated dosing method, the pharmacist should actively perform patient-compliance instruction (d) for the outpatient, the pharmacist should regulate the medication history pocketbook, even when they are at the counter of the pharmacy (e) a responsible person should be selected for the management of any drug for which a withdrawal period is indicated (f) when Didronel® is prescribed, a prescription ordering system should be considered whereby warnings can be issued. One opinion on this suggested the necessity for having a responsible participant for the management of the withdrawal period.

Discussion

The most important finding from this study into current patient management is that it is unclear which person is responsible for the management of the withdrawal period. A proportion of pharmacists expected that doctors alone should manage the withdrawal period, and vice versa. With regard to management in the withdrawal period, more involvement by the pharmacist was expected by the doctor. The above finding shows that the management of the withdrawal period should be conducted by both the pharmacist and the doctor.

Only 3% of hospitals provided information to outside pharmacies for departing patients. Thus, from the point of view of the pharmacist of the outside pharmacy, the hospital pharmacist does not provide any patient information service.

Many of the responses of the doctors or pharmacists made reference to the medication history pocketbook. Although the method used to inform patients about the withdrawal period was mainly by oral communication, half of the doctors questioned responded that the ideal way would be to mention the issue in the medication history pocketbook.

In the case of patients undergoing inter-hospital pharmacotherapies, it was suggested that providing information between hospitals regarding the withdrawal period was necessary.

In conclusion, firstly the medication history pocketbook method should be routinely used so that hospital management in the withdrawal period can be optimized. Secondly, the pharmacist of the hospital should offer patient information to the outside pharmacy. Thus, all pharmacists should support proper understanding of the patient withdrawal period by making use of the medication history pocketbook.

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