



The Duration of Azithromycin use for Outpatients in a Public Hospital in Alkharj

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Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

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ABSTRACT

Aim: The present study aims to explore the appropriateness of azithromycin use duration in the outpatient setting in a public hospital.

Methodology: The present study included a review of the electronic prescriptions in the outpatient setting in a public hospital in Alkharj between January 2018 till June 2018.

Results: The total number of outpatients who received was 541 patients. Most of these patients received azithromycin as a suspension (55.64%). In general, most of the patients received azithromycin for 3 days (88.17%) followed by 5 days (9.98%).

Conclusion: The study showed that azithromycin was prescribed commonly and that the duration of azithromycin treatment in the hospital was for 3 days for the majority of patients. it is important to monitor the appropriateness of prescribing azithromycin and to educate the patients about the use of their drugs.

Keywords: Antibiotic; azithromycin; duration; outpatient; use.

1. INTRODUCTION

Azithromycin is a macrolide antibiotic that has a relatively long serum half-life, which has been

reported to be between 35-96 hours [1-3]. Moreover, the half-life of azithromycin in lung tissue is more and can be as long as 132 hours [3], which is important because tissue

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concentrations are thought to be more indicative of the clinical efficacy of macrolides [4]. Antibiotics are used to treat infections that are caused by bacteria and are usually given as a short course for 1–2 weeks and then stopped [5]. Azithromycin is used commonly because it has a potential immunomodulatory and anti-inflammatory action in several respiratory diseases [6–8]. The usual dose is 500mg a day for 3 to 10 days depending on the infection being treated [9].

There are numerous side effects for azithromycin use. Common side effects of azithromycin include diarrhea, blistering, crusting, irritation, itching, or reddening of the skin, loose stools, cracked and scaly skin, fever and swelling [10]. Furthermore, azithromycin might increase the risk of life-threatening ventricular arrhythmias or cardiac arrest due to corrected QT interval prolongation [11], and this risk might be enhanced in the presence of other drugs known to prolong corrected QT interval, such as hydroxychloroquine [12-14].

Medication interactions may change how the drugs work or increase the risk for serious side effects. Numerous drugs interact with azithromycin particularly the drugs that may affect the heart rhythm that leads to QT prolongation such as amiodarone, hydroxychloroquine [15].

Azithromycin should be used wisely with the correct duration in order to decrease its adverse events and its toxicity. Therefore, the present study aims to explore the appropriateness of azithromycin use duration in the outpatient setting in a public hospital.

2. METHODOLOGY

The present study included a review of the electronic prescriptions in the outpatient setting in King Khaled Hospital in Al-kharj to explore the prescribed dosage forms of azithromycin and to describe the duration of different dosage forms of azithromycin that were used in the hospital

during the period of 6 months between January 2018 till June 2018. Al Kharj is a governorate in central Saudi Arabia. It is one of the important governorates in the Kingdom of Saudi Arabia and is located in the southeast of the capital Riyadh.

All of the prescriptions in the outpatient pharmacy that included azithromycin were included in the study. The prescriptions that didn't include azithromycin and the prescription that were prescribed for inpatients were excluded from the study.

The data were collected after the approval of the study from hospital ethical committee. The data was processed using Microsoft Excel and the descriptive data was represented as frequencies and percentages

3. RESULTS AND DISCUSSION

The total number of outpatients who received was 541 patients. Most of these patients received azithromycin as a suspension (55.64%). Table 1 shows the dosage forms of the prescribed azithromycin.

Table 2 shows the duration of azithromycin tablet use in the hospital. Most of the patients received azithromycin tablet for 3 days (76.67%) followed by 5 days (20.83%).

Table 3 shows the duration of azithromycin suspension use in the hospital. Most of the patients received azithromycin suspension for 3 days (97.34%), followed by 5 days (1.33%).

Table 4 shows the duration of azithromycin use (for all dosage forms) in the hospital. In general, Most of the patients received azithromycin for 3 days (88.17%) followed by 5 days (9.98%).

The study showed that generally the duration of azithromycin treatment in the hospital was for 3 days. The tablets and suspension of azithromycin are usually taken with or without food once a day for 1–5 days [16].

Table 1. The dosage forms of the prescribed azithromycin

Dosage form	Number	Percentage
ZITHROMAX 250 mg Tablet	240	44.36
ZITHROMAX 200 mg/5 ml Suspension	301	55.64
Total	541	100.00

Table 2. The duration of azithromycin tablets uses in the hospital

Number of Days	Number of prescriptions	Percentage
3 Day(S)	184	76.67
4 Day(S)	1	0.41
5 Day(S)	50	20.83
7 Day(S)	3	1.25
10 Day(S)	1	0.41
30 Day(S)	1	0.41
Total	240	100

Table 3. The duration of azithromycin suspensions uses in the hospital

Number of Days	Number of prescriptions	Percentage
3 Day(S)	293	97.34
4 Day(S)	3	1.00
5 Day(S)	4	1.33
7 Day(S)	1	0.33
Total	301	100

Table 4. The duration of azithromycin use in the hospital

Number of Days	Number of prescriptions	Percentage
3 Day(S)	477	88.17
4 Day(S)	4	0.74
5 Day(S)	54	9.98
7 Day(S)	4	0.74
10 Day(S)	1	0.18
30 Day(S)	1	0.18
Total	541	100

The duration of therapy for some diseases is 5 days such as tonsillitis, pharyngitis, skin infection, chronic obstructive pulmonary disease and bronchitis [17]. The duration of therapy for some diseases is such as Lyme disease, pelvic inflammatory disease and community-acquired pneumonia [17]. For other diseases the duration is 3 days such as sinusitis [17].

Duration of treatment varies with indication and severity. Several days of treatment is generally appropriate in respiratory tract infections and several months in mycobacterial infections. Guidelines should be consulted for detailed recommendations [18].

The duration could be changed from one place to another. Casey and Pichichero stated that in the United States, a 5-day regimen of azithromycin is approved for treatment of Group A Streptococcal tonsillopharyngitis in adults; outside the United States, a 3-day regimen is approved [19].

The main limitation in the study was that there were no indications in the electronic records so the impact of various durations of the drug prescription on the patients is not included in the study.

4. CONCLUSION

The study showed that azithromycin was prescribed commonly and that the duration of azithromycin treatment in the hospital was for 3 days for the majority of patients. It is important to monitor the appropriateness of prescribing azithromycin and to educate the patients about the use of their drugs.

DISCLAIMER

The products used for this research are commonly and predominantly used products in our area of research and country. There is absolutely

no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

CONSENT AND ETHICAL APPROVAL

The data were collected after the approval of the study from hospital ethical committee. Patients' written consent has been collected and preserved by the author(s).

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COMPETING INTERESTS

Author has declared that no competing interests exist.

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