ORIGINAL ARTICLE

Study of prescription patterns of antibiotics in treating lower respiratory tract infections at Sohag Chest Hospital

Mona M. Ahmed [a,1], Ashraf A. ELMaraghy [a,*], Engy W. Andrawas [b,2]

[a] Chest Department, Faculty of Medicine, Ain Shams University, Cairo, Egypt
[b] Sohag Chest Hospital, Sohag, Egypt

Abstract *Background:* Most people will develop an acute respiratory tract infection (RTI) every year. RTIs are also the commonest acute problem dealt with in primary care – the 'bread and butter' of daily practice. Management of acute RTIs in the past concentrated on advising prompt antibiotic treatment of presumptive bacterial infections.

Objective: To study the prescription patterns of antibiotics in treating lower respiratory tract infections at Sohag Chest Hospital.

Patients and methods: This study included 50 adult in-patients with lower respiratory tract infections admitted at Sohag Chest Hospital and 20 chest physicians working at the same hospital. The study depended upon collecting data from a questionnaire directed to the chest physicians. The 50 patients were subjected to full medical history and examination, chest X-rays and antibiotics received as regards the route of administration, duration of treatment and possible switch therapy.

Results: Forty percent of the physicians considered text books and thirty percent of the physicians considered pharmaceutical companies as a main source of information about antibiotics. Ninety-five percent of physicians used to prescribe AB empirically. Sixty percent of physicians considered their own experience as a reference for empirical AB prescription. Almost all of the physicians considered the presence of co-morbid diseases during AB prescription. Eighty percent of physicians considered the severity of infection as the most important factor affecting the route of AB administration. The results also showed that forty-five percent of physicians considered quinolones as the most common AB prescribed for empirical therapy. Fifty percent of physicians considered the 4–7 day duration for empirical therapy. Sixty-five percent of physicians considered improvement of general condition as the most important factor in determining the efficacy of

* Corresponding author. Mobile: +20 1001770702.
E-mail addresses: tarerkabdo@hotmail.com (M.M. Ahmed),
ashrafelmaraghy@yahoo.com (A.A. ELMaraghy), engywahby@
yahoo.com (E.W. Andrawas).
[1] Mobile: +20 123983481.
[2] Mobile: +20 1223852229.

2

AB prescribed. Forty percent of physicians considered 2–3 day duration was enough to assess the efficacy of AB prescribed. Fifty percent of physicians included in the study changed the AB group in case the prescribed AB was ineffective. The study showed that a majority of physicians used to make sure that the prescribed AB was the one actually given to the patient. Most of the physicians used to ask the patient before prescribing the AB if he was sensitive to a certain AB. Seventy-five percent of physicians used to ask the patient about AB history in the last 3 months. As regards fifty percent of physicians, their AB prescription decision might be sometimes affected by the patient.

Conclusions: AB prescription practices need to be well evaluated in order to formulate an acceptable rationale aiming at improving the global situation of antibiotic use. Many points have to be taken into consideration such as increasing awareness of physicians about different widely accepted guidelines.

Introduction

Antibiotics are of the oldest discovered drugs that combat specific micro organisms like bacteria and fungi. Although there are several classification schemes for antibiotics, based on bacterial spectrum (broad vs. narrow) or route of administration (injectable vs. oral vs. topical), or type of activity (bactericidal vs. bacteriostatic), the most useful is based on the chemical structure. Antibiotics within a structural class will generally show similar patterns of effectiveness, toxicity and allergic potential [1].

Antibiotics are the most frequently prescribed drugs among hospitalized patients and there are reported concerns about the continuous indiscriminate and excessive use of antimicrobial agents that promote the emergence of antibiotic-resistant organisms [2].

The global spread of antimicrobial resistance has become a pressing problem, with a focus on the ICU due to the increasing administration of ineffective antimicrobial regimens associated with greater morbidity and mortality [3].

Antibiotics are often thought to be the first line treatment in lower respiratory tract infections; however, these are not indicated in viral infections. It is important to use an appropriate antibiotic selection based on the infecting organism and to ensure this therapy changes with the evolving nature of these infections and the emerging resistance to conventional therapies [4].

There are a number of acute and chronic infections that can affect the lower respiratory tract. The two most common infections are bronchitis and pneumonia [5].

Acute respiratory infections (ARIs) are common and cause significant morbidity and contribute significantly to the overall disease load on the community [6].

In addition to their important social impact, ARIs are frequent causes of medical care and consumption of antibiotics [7].

Patients and methods

This study included 50 adult in-patients with lower respiratory tract infections admitted at Sohag Chest Hospital and 20 chest physicians working at the same hospital.

The study depended upon collecting data from:

First questionnaire

Directed to 20 chest physicians working at Sohag Chest Hospital:

1. What is your medical education?

☐MB.,B.Ch   ☐Diploma   ☐Master

2. Years of experience:

☐ < 5 years   ☐6–10 years   ☐11–15 years
☐16–20 years   ☐21 years

3. Do you frequently deal with patients with lower respiratory tract infections?

☐Yes   ☐No

4. If yes → Number of patients with LRTIS/week?

☐1–5   ☐6–10   ☐ > 11

5. Most frequent LRTIS you deal with: (please number them in a descending manner)

☐COPD, AIE   ☐CAP   ☐HAP   ☐Bronchiectasis   ☐IPF, AIE   ☐Others (please state)

6. Main source of your information about antibiotics (ABs):

☐Text Book   ☐Internet   ☐Pharmaceutical companies   ☐Medical journals   ☐Lectures