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Original article

Proposal for shorter antibiotic therapies

Propositions pour des antibiothérapies plus courtes

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Abstract

Objectives. – Reducing antibiotic consumption has now become a major public health priority. Reducing treatment duration is one of the means to achieve this objective. Guidelines on the therapeutic management of the most frequent infections recommend ranges of treatment duration in the ratio of one to two. The Recommendation Group of the French Infectious Diseases Society (SPILF) was asked to collect literature data to then recommend the shortest treatment durations possible for various infections.

Methods. – Analysis of the literature focused on guidelines published in French and English, supported by a systematic search on PubMed. Articles dating from one year before the guidelines publication to August 31, 2015 were searched on the website.

Results. – The shortest treatment durations based on the relevant clinical data were suggested for upper and lower respiratory tract infections, central venous catheter-related and uncomplicated primary bacteremia, infective endocarditis, bacterial meningitis, intra-abdominal, urinary tract, upper reproductive tract, bone and joint, skin and soft tissue infections, and febrile neutropenia. Details of analyzed articles were shown in tables.

Conclusion. – This work stresses the need for new well-conducted studies evaluating treatment durations for some common infections. Following the above-mentioned work focusing on existing literature data, the Recommendation Group of the SPILF suggests specific study proposals.

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Keywords: Treatment duration; Antibiotic therapy; Short treatment; Antibiotic consumption; Antibiotic stewardship

Résumé

Objectifs. – Réduire les durées des traitements antibiotiques est un des moyens permettant une réduction globale de la consommation d'antibiotiques. Les recommandations, même les plus récentes, proposent très souvent des fourchettes de durées de traitement. Le Groupe

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recommandations de la Société de pathologie infectieuse de langue française (SPILF) a effectué une revue de la littérature, dans le but de faire des propositions de durées de traitements courts dans les infections bactériennes.

Méthodes. – Revue de la littérature, jusqu’au 31 août 2015, des essais randomisés abordant les durées de traitement, des recommandations récentes et de leurs argumentaires.

Résultats. – Des durées de traitement courtes (souvent plus courtes que dans certaines recommandations) peuvent être proposées pour les infections respiratoires hautes et basses, les bactériémies dont celles liées aux cathéters veineux centraux, les endocardites infectieuses, les méningites bactériennes, les infections intra-abdominales, urinaires et génitales, les infections ostéo-articulaires, les infections de la peau et des tissus mous et les neutropénies fébriles. Le détail des articles sur lesquels se basent ces propositions est repris dans des tableaux.

Conclusion. – Ce travail, qui montre la pauvreté de la littérature s’intéressant spécifiquement aux durées de traitements antibiotiques, permet d’identifier les études à réaliser de façon prioritaire dans ce domaine.

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Mots clés : Durée de traitement ; Antibiothérapie ; Traitement court ; Consommation d’antibiotiques ; Bon usage

1. Introduction

Guidelines on the therapeutic management of the most frequent infections recommend ranges of treatment duration in the ratio of one to two. These ranges take into consideration the various clinical presentations of a single infection and causative agents.

Reducing antibiotic consumption has now become a major public health priority. Reducing treatment duration is one of the means to achieve this objective.

Shorter treatment duration and reevaluation by a senior physician of treatment durations exceeding seven days are part of the suggestions included in the Program for the prevention of healthcare-associated infections (French acronym PROPIAS) and in the report entitled “All together, let’s try and save antibiotics” [1].

For instance, the authors of a recent review of randomized study data on the use of biomarkers and specialized mobile team concluded to the greater benefit of a short treatment in lower respiratory tract infections and did not observe any changes in terms of success, relapse, and mortality [2].

The Recommendation Group of the French Infectious Diseases Society (French acronym SPILF) was asked to collect literature data to then recommend the shortest treatment durations possible for various infections.

2. Method

Topics and methods were defined by the SPILF Recommendation Group during Autumn 2014.

Each chapter was written by two members of the group using a literature analysis. Two other members reviewed each chapter before final approval from all members of the group.

The literature analysis focused on guidelines published in French and English. It was then supported by a systematic search on PubMed. Articles dating from one year before the guidelines publication to August 31, 2015 were searched on the website. We used the following search terms to narrow our search down: “treatment duration”, “antibiotic”, “short treatment”, “long treatment”, “short course”, “short vs. long”, and

“reduced duration”. In addition to this search, a systematic analysis of treatment durations used in randomized trials evaluating the given infection was performed during the specified period. Results of the analysis of all studies used to draft the present document are available in the appendix.

Findings from our work are presented by topics, with the following information for each section:

- a box summarizing the shortest treatments that may be suggested, for standard clinical situations;
- a summary of data that helped in drafting the guidelines;
- a table presenting the main characteristics of studies that we took into consideration.

3. Upper respiratory tract infections

Suggested treatment durations:

- 5 days:
 - acute otitis media (AOM) in children from 2 years of age, without any relapse nor any otorrhea,
 - adult maxillary sinusitis;
- 6 days:
 - group A streptococcal tonsillitis treated with amoxicillin;
- 10 days:
 - AOM in children aged below 2 years, or recurrent AOM, or AOM associated with otorrhea,
 - pediatric maxillary sinusitis,
 - frontal sinusitis.

Method.– Source: Good Practice Recommendations – Systemic antibiotic therapy in routine practice for the treatment of adult and pediatric upper respiratory tract infections (2011), IDSA Guidelines on sinusitis [3], and literature analysis on PubMed from 2011 to 2015.

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