

# Reflection & Reaction



## Nosocomial infection: a terminological clarification

In the past 30 years or more, the term nosocomial infection has had many definitions in the English language. I have gathered these definitions and tried to identify the differences and common points that emerge. From a terminological point of view, definitions were unstable and reflected a lack of vision of the “concept” of nosocomial infection. With the aid of French society of terminology and with the approval of the international council of the French language, I have tried to clarify what we may understand—strictly from a terminological point of view—by nosocomial infection. My reflections on this problem may help specialists and non-specialist to understand what each other means by nosocomial infection.

First, the adjective nosocomial comes from the Latin *nosocomium*, which means hospital or institution for the sick. For the Greek etymology, we find *nosos*, which means disease, and *comein* or *komein*, which means care. This etymology refers to the very function of hospital: to care for patients. Also, we may now understand, through this etymology, that hospital refers to the structure, environment, and the care given.

Two notions can be distinguished in the concept of nosocomial infection: the infection and its nosocomial characteristic. The first stage is to differentiate what is infection and what is not. Infection presents two essential components: a pathological reaction of the

organism, and a disease caused by a microorganisms. These elements make a distinction between infection and others concepts like colonisation, contamination, inoculation, and inflammation because none of these concepts present the two components together. The second stage is the nosocomial characteristic of a disease. In the etymology of nosocomial, two elements of a

### Nosocomial infection

Pathological reaction caused by microorganisms, whose origin is in hospital. It can concern people staying, visiting, or working in a hospital.

Exogenous nosocomial infection is the results of a microorganism from the hospital environment.

Endogenous nosocomial infection results from an activity done in the hospital. In this case, the microbe is a community one.

Nosocomial infection that touches a professional who works in hospital is an occupational one.

hospital are suggested: first, the hospital structure and its human and material environment; and second, the hospital function—to care. Consecutively, the word nosocomial can be used for marking the hospital origin of a disease, if it concerns the structural environment or hospital function. Nosocomial infection can be considered as an infection whose origin is the hospital. It could be a microorganism from the hospital environment—we talk about “cross” infection or “exogenous” infection—or it could be the mechanism that results in a

pathological reaction—we talk about “endogenous” infection in which the microbe comes directly from the hospitalised person. If we do not consider the simple, but essential, fact that infection results from the association of a microorganism and the pathological reaction of the body to this microbe, we hid one side of nosocomial infection.

Nosocomial infection is, in conclusion, a pathological reaction caused by microorganism whose origin (of the reaction or of the microorganism) is the hospital. Infection can be considered as nosocomial if the sick person contracts the microbe from the hospital environment. Infection can also be considered as nosocomial if an intervention that occurred in the hospital has contributed to the mechanism of the pathological reaction: nosocomial infections can be also iatrogenic. But not all nosocomial infections are iatrogenic (eg, endogenous infections), and all iatrogenic infections are not nosocomial.

The panel summarises the definition of nosocomial infection.

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## Amodiaquine during pregnancy

Florence Thomas and colleagues<sup>1</sup> have provided a comprehensive review of published data on the toxicity of amodiaquine, and specifically its safety during pregnancy. The main conclusion is that there is an urgent need for further studies, especially during pregnancy, before amodiaquine can be recommended for women of child-bearing age as monotherapy or as partner drug in combination

therapy—eg, with artesunate. Similarly, Nosten et al<sup>2</sup> underline the urgency of safety data on artemisinin-based combination therapy (ACT) in general during pregnancy, even recommending large community-based studies of its use in intermittent preventive treatment (IPT) in high-transmission areas where sulphadoxine-pyrimethamine (SP) resistance is established and an effective alternative to SP is required.

We largely concur with the views raised by Thomas et al, especially regarding the need for pharmacovigilance. However, we would like to add clarifications regarding the antimalarial policy in Zanzibar, Tanzania, and argue for the need of more pharmacokinetic studies.

It is correct that amodiaquine (combined with artesunate) is first-line treatment for uncomplicated