



## **Does antibiotic prophylaxis really prevent streptococci infective endocarditis?**

Didier Raoult, Cedric Abat

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## CORRESPONDENCE

## Does antibiotic prophylaxis really prevent streptococci infective endocarditis?

## To the Editor,

We read with interest the work presented by Cahill *et al*<sup>1</sup> in which the authors evaluate the impact of antibiotic prophylaxis to prevent bacteraemia and infective endocarditis in patients undergoing dental procedures. The analysis was performed based on 36 studies, including 21 bacteraemia studies, five case controls and cohort studies and 10 time trend studies.

It is generally well established that dental cares cause bacteraemia and that most are due to streptococcal strains.<sup>1,2</sup> It is, consequently, reasonable to think that prescribing antibiotics before dental cares decreases the incidence of such bacteraemia. Globally, the discordant results between the different kinds of studies analysed in the paper by Cahill *et al*<sup>1</sup> are clearly insufficient to conclude that antibiotic prophylaxis prevents bacteraemia due to streptococci. In our view, this observation can be explained by the fact that dental care is not the only cause of streptococcal bacteraemia. Indeed, such bacteraemia are extremely common, and it has been demonstrated that they can occur after chewing and after brushing in

patients with periodontitis (cumulatively in 25% and 20% of cases, respectively).<sup>2</sup> It is, therefore, fairly unlikely that bacteraemias due to dental cares are more responsible for endocarditis than other kinds of bacteraemias. In practice, this implies that the only reasonable antibiotic prophylaxis to prevent almost every bacteraemia due to oral streptococci would be lifetime treatment with penicillin or ampicillin.<sup>3</sup> However, even doing so, it would be impossible to prevent all infective endocarditis, as the authors observe.<sup>1</sup>

The main limitation of the study by Cahill *et al*<sup>1</sup> is that it did not include negative controls for bacteraemia and that the frequency of bacteraemia was measured only after dental care rather than after different day-to-day situations. This is an important methodological error which makes it an unreasonable basis for justifying particular conclusions.

Thus, and for the reasons mentioned above, there is still no evidence that antibiotic prophylaxis during dental care changes the incidence of infective endocarditis,<sup>4</sup> and this is the only reasonable conclusion of this study.

Didier Raoult, Cédric Abat

URMITE, Aix Marseille Université, IHU Méditerranée Infection, AP-HM, Marseille, France

**Correspondence to** Professor Didier Raoult, URMITE, UMR CNRS 7278, IRD 198, INSERM U1095, IHU

Méditerranée Infection, Faculté de Médecine et de Pharmacie, Aix-Marseille Université, 27 boulevard Jean Moulin, 13385 Marseille CEDEX 05, France; Didier.Raoult@gmail.com

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