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ANTIBIOTIC PROPHYLAXIS AT DENTAL IMPLANT PLACEMENT: WHICH IS THE BEST PROTOCOL? A SYSTEMATIC REVIEW AND NETWORK META-ANALYSIS

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Aim:
This systematic review of randomized controlled trials (RCTs) aims to answer to the following question: "In patients undergoing dental implant placement, which is the best antibiotic prophylaxis protocol to prevent implant failures?"

Materials and Methods:
The MEDLINE, SCOPUS, CENTRAL and Web of Knowledge electronic databases were searched in duplicate for RCTs up to July 2017. Additional relevant literature was identified 1) hand-searching on both relevant journals and on reference lists, and 2) searching in databases for grey literature. A Network Meta-analysis (NMA) was conducted and the probability that each protocol is the Best was estimated.

Results:
Nine RCTs were included, with a total of 1,693 participants. The protocol with the highest probability (32.5%) of being the Best to prevent IF was the single dose of 3g of amoxicillin administered 1-h pre-operatively. Even if the single pre-operative dose of 2g of amoxicillin is the most used, it achieved only a probability of 0.2% to be the Best.

Conclusions:
Basing on the limited evidence available from RCTs, a single-dose of 3 g of amoxicillin 1-h pre-operatively should be preferred when an antibiotic prophylaxis is required at dental implant placement.