The Effectiveness of Systemic Antimicrobial Treatment in Canine Pyoderma: A Systematic Review

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Background

Bacterial pyoderma is a common diagnosis in UK pet dogs & *Staphylococcus pseudintermedius* is the most frequent causal organism[1].

Deep lesions (i.e. fistulae, furuncles, draining tracts) are more painful, severe and difficult to treat than superficial lesions (i.e. papules, pustules, crusts, collarettes) & systemic antimicrobial (AM) therapy is indicated[2].

However existing studies evaluating the effectiveness of different systemic AM treatment approaches report unclear or conflicting findings.

Aims

Evaluation of existing evidence for the effectiveness of systemic AM treatments in naturally-occurring canine pyoderma (superficial & deep).

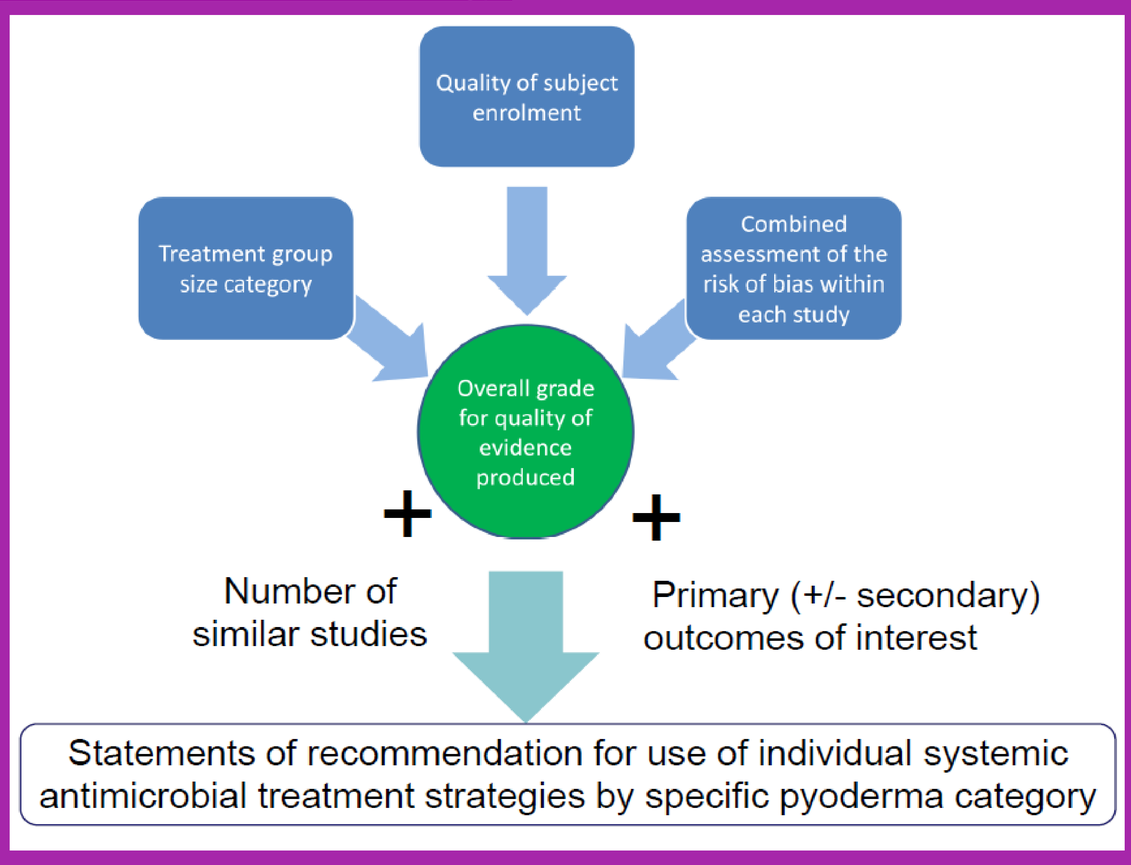
Methods

PubMed, MEDLINE & CAB Direct searched on 25th May 2011 (no date/language restrictions). Proceedings of ESVD/ECVD, AAVD/ACVD, NAVDF & WCVD annual congresses also searched. Unpublished studies sought via Veterinary Dermatology discussion list & Veterinary Information Network (VIN).

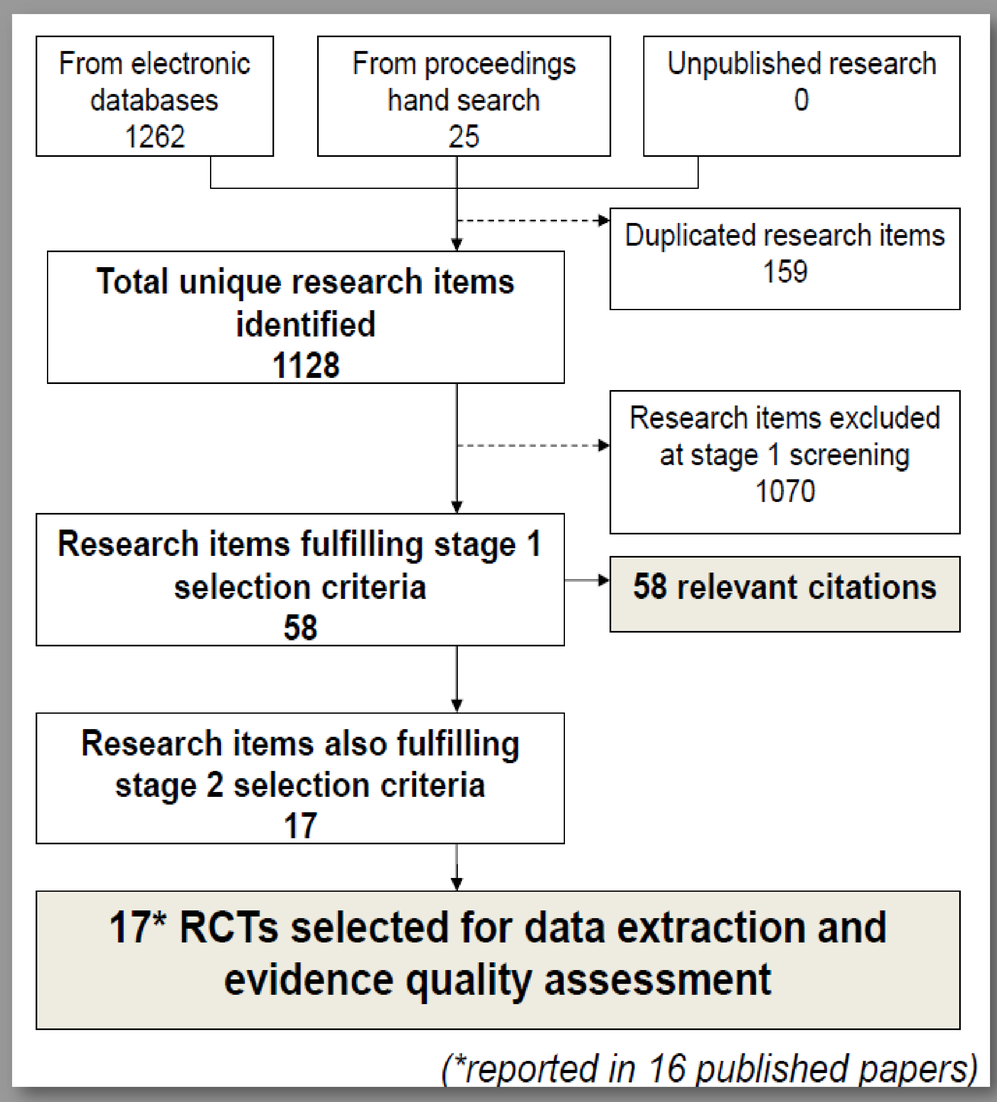
Study inclusion criteria:

- **Peer-reviewed, original research articles only (no reviews).**
- **Evaluating *in vivo*, systemic AM treatment interventions in naturally occurring canine pyoderma**
- **Controlled trial design**
- **Sufficient detail for outcome extraction & study design evaluation**

Evidence assessment strategy:

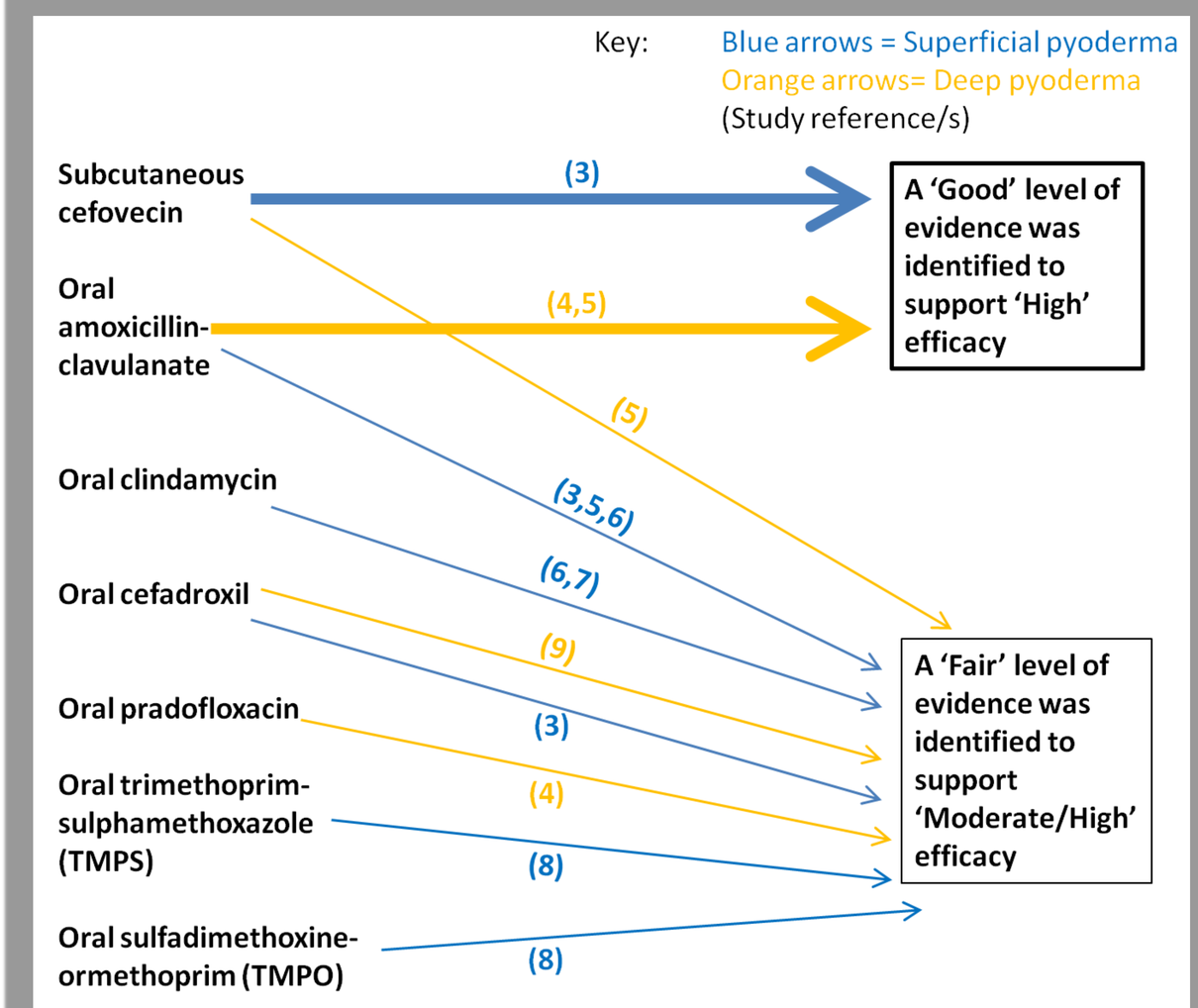


Results



Heterogeneity of study designs & outcome measures made meta-analysis inappropriate.

However the following statements of recommendation for use of individual AM treatment strategies could be made:



Conclusions

'Good' levels of evidence identified to support 'High' efficacy of SC cefovecin in superficial pyoderma & oral amoxicillin-clavulanate in deep pyoderma.

However, there is a need for greater numbers of adequately sized, blinded, randomized controlled trials evaluating systemic AM interventions for canine pyoderma.

Future trials would benefit from:

- improved differentiation between superficial & deep pyoderma in outcome reporting
- outcome measure standardization
- association of outcomes with causative bacterial species & their resistance patterns.

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