COMMENTARY

Outcome assessment in dermatology: a tree in need of pruning

Clinical Trials in medicine is a multi-billion dollar industry, but exposes patients to risks and uncertainty, and provide an ever-increasing amount of information to clinicians. The costs per individual trial, number of different diseases studied, the number of participating international centres and patients, and complexity of study designs are increasing. The outcome of the studies has evolved as well and is now including more detailed clinical outcomes, patient-reported outcomes (e.g. effect on specific symptoms, health-related quality of life and treatment satisfaction), drug tolerability and safety, and costs. To summarize and compare the findings of clinical studies in (network) meta-analysis, it is important that the study designs are at least comparable and ideally identical. However, as expected in situations of exponential growth, we lost oversight of the different outcomes and their definitions used in the clinical studies in dermatology. We have neglected the trees in the orchard while picking low-hanging fruit.

In this issue of the *JEADV,* Lange et al confirmed the proliferation of dermatology outcomes.[1] They filleted the outcomes in

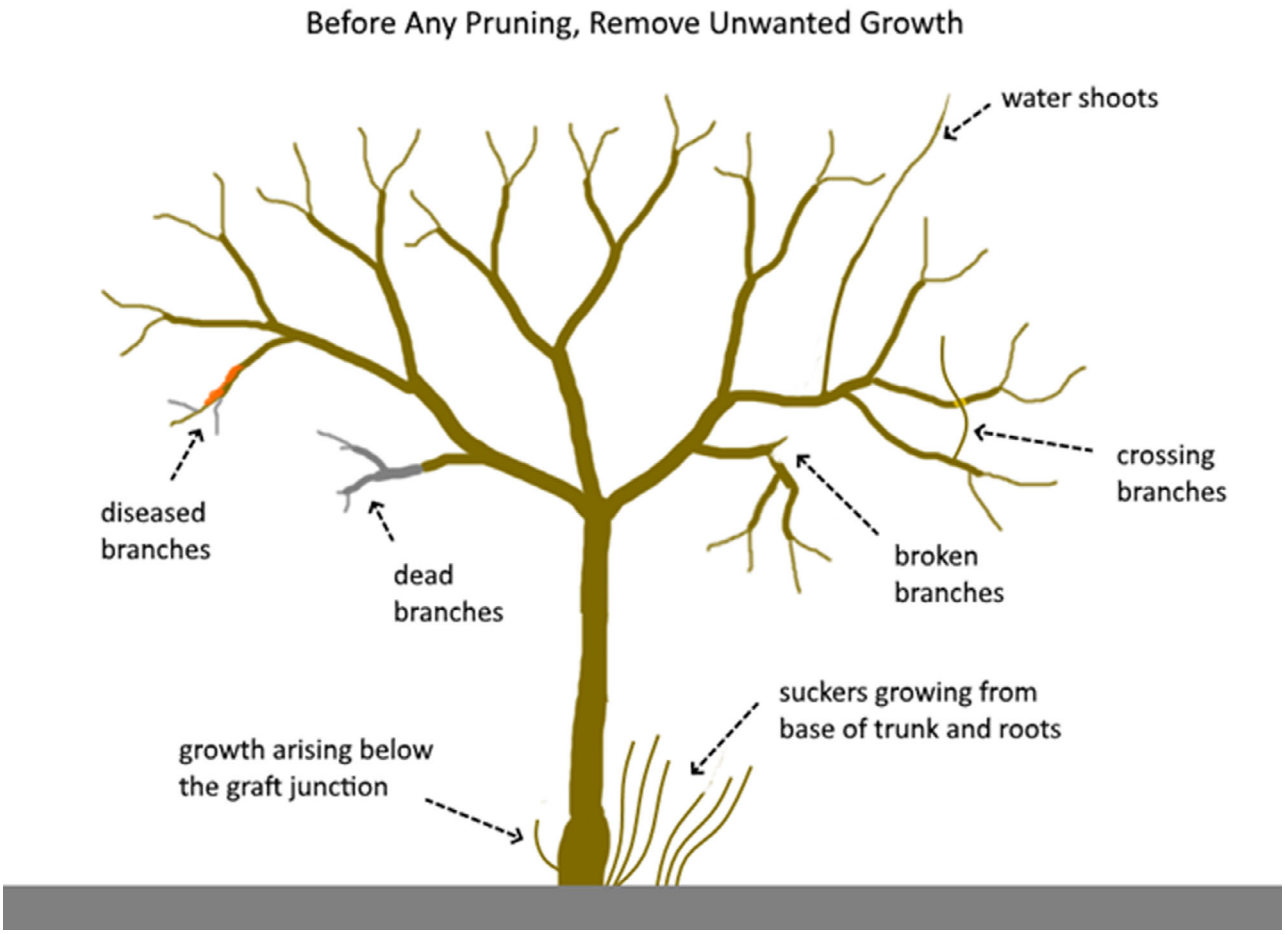

Figure 1 A tree in need of pruning.

220 clinical studies of 10 randomly selected, relatively old (<2015), Cochrane reviews ranging from psoriasis, pemphigus vulgaris and common warts. They categorized the outcomes in four areas by a generally accepted filter. Of the four core area's investigated, the dermatology trials performed best in the 'life impact' and pathophysiological manifestations (clinical outcome) and much less on 'economical' impact and 'death'. Not surprising, they demonstrated a wide variety of 1086 outcomes of which almost halve were ill defined. Often important information was missing concerning measurement tool, time of measurement, unit and delta of the outcomes that was analysed. In conclusion, they make an urgent call for dermatology-specific outcome taxonomy to ease the life of reviewers and scientist to be able to compare the data.

This paper is not an easy read, it is conceptual science. Considering the metaphor with a tree as is provoked by using the term taxonomy (i.e. 'the process of naming and classifying things such as plants into groups within a larger system, according to their similarities and differences') in the title, the tree is dense (too many separate outcomes), has sick, broken and dead branches [poor (defined) outcomes], and suffers under its own weight (too many outcomes). The wild proliferation of fine branches which reflect the currently used outcomes, need to be pruned to a couple of thick branches (i.e. the so called core areas) that are directly linked to the tree trunk (outcomes in dermatology). The work of the Core Outcome Set groups demonstrates the benefits of fruitful thick branches. The HOME initiative (Core Outcome Set group for atopic eczema), e.g. has develop consensus on WHAT and HOW to measure pivotal outcomes in eczema[2] as is reflected in a recent network meta-analysis.[3] However, further pruning is clearly needed. The work by Lange at al provides the first snap shot of this dermatological tree and a strategy on how to best prepare it for the coming years so it can continue to bare delicious fruits Figure 1.

Conflict of interest

None.

Funding

None.

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Linked article: T. Lange et al. *J Eur Acad Dermatol Venereol* 2021; 35: 523–535. https://doi.org/10.1111/jdv.16854.

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3 Drucker AM, Ellis AG, Bohdanowicz M *et al.* Systemic immunomodulatory treatments for patients with atopic dermatitis: a systematic review and network meta-analysis. *JAMA Dermatol* 2020; **156**: 659–667.

DOI: 10.1111/jdv.17103