Pitfalls of meta-analysis

Weisman et al 2 found the relative risk of infection if IVIG prophylaxis was not used to neonates would be 2-6 (3-2) (mean (SD)), and a relative risk of death in infected neonates not treated with IVIG to be 3-0 (0-7). The authors explain this difference by suggesting use of 'inappropriate statistical methods' by Weisman et al.

Lacy and Ohlsson have heavily quoted published data in search of 'good quality' and 'homogeneity'. In the field of IVIG nothing thus far has been homogenous. All the published data – good or poor quality – have not only differed in entry and outcome criteria but also in basic definitions of variables such as the definition of sepsis and mortality from sepsis.

Nor have the authors differentiated between mortality from disease and that from unrelated causes or weight groups. Babies that weigh 800 g have a higher mortality from causes other than sepsis than those weighing 2500 g. The authors have also failed to discriminate between studies in which a placebo was used for the control group and studies in which there was no intervention in the control group.

Another bias in this analysis was the uncritical acceptance of the definition of sepsis. No distinction was made and that from unrelated causes or weight groups. Babies that weigh 800 g have a higher mortality from causes other than sepsis than those weighing 2500 g. The authors have also failed to discriminate between studies in which a placebo was used for the control group and studies in which there was no intervention in the control group.

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As the authors themselves pointed out, the studies differed in dose regimen, duration of treatment, and the IVIG preparation used. However, they fail to point out two crucially important differences between preparations: bioavailability which depends on the method of subcutaneous injection and that from unrelated causes or weight groups. Babies that weigh 800 g have a higher mortality from causes other than sepsis than those weighing 2500 g. The authors have also failed to discriminate between studies in which a placebo was used for the control group and studies in which there was no intervention in the control group.

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