

Poster presentation

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Investigating the use of a limited core outcome variable set for the classification of response following methotrexate treatment in juvenile idiopathic arthritis (JIA)

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Background

The utility of the core outcome variable (COV) classification procedure as a method of gauging response to treatment in JIA is often jeopardised by missing data. To investigate how accurately cases are classified as responders or non-responders with a limited set of data, this study systematically examined how the exclusion of core variables influenced classification.

Methods

From a complete dataset of 410 JIA patients (provided by PRINTO), variables were systematically excluded and cases reclassified as responders or non-responders according to the criteria of improvement at 30%, 50% or 70%. Comparisons of the sensitivity, specificity were utilised to calculate overall accuracy of classification for each limited dataset in comparison to classification via the full dataset.

Results

The systematic removal of one variable resulted in lowered accuracy of classification in the ranges of 86.5–91.8%, 81.7–93.9% and 79.5–88.6% at the 30%, 70% and 50% criteria levels. Exclusion of the CHAQ had the least impact, while exclusion of the number of active joints had the greatest impact on accuracy. As the percentage criteria became more stringent the overall accuracy reduced, however even at the 70% criteria up to 89% accuracy was possible if only the CHAQ was omitted. The

omission of both parental global rating and the CHAQ had a particularly large impact on sensitivity and accuracy.

Conclusion

It is possible that a limited set of variables can lead to a relatively accurate indication of the response to treatment by JIA patients, but careful consideration of the precise variable(s) omitted is required.