Analisis farmacoeconomico del esquema corto de praziquantel en el tratamiento de la neurocisticercosis [Pharmacoeconomic analysis of short-scheme praziquantel in the treatment of neurocysticercosis]

Record Status
This is a critical abstract of an economic evaluation that meets the criteria for inclusion on NHS EED. Each abstract contains a brief summary of the methods, the results and conclusions followed by a detailed critical assessment on the reliability of the study and the conclusions drawn.

Health technology
Two different dosages of praziquantel were studied for the treatment of neurocysticercosis. A dose of 50 mg/kg per day for 2 weeks was compared with 75 mg/kg per day for one day.

Type of intervention
Treatment.

Economic study type
Cost-effectiveness analysis.

Study population
The study population comprised patients suffering from neurocysticercosis caused by Taenia solium larvae. The inclusion and exclusion criteria were not reported.

Setting
The clinical setting was a hospital. The economic study was carried out in Mexico.

Dates to which data relate
The effectiveness data and resource use were taken from studies published between 1990 and 1999. The price year was 2001.

Source of effectiveness data
The effectiveness data were gathered from a review of the literature.

Outcomes assessed in the review
The primary outcomes assessed in the review were the rate of neurological signs and symptoms, and the reduction in the number of cysts. In addition, potential adverse events related to the drugs, such as convulsions, migraine, hyperthermia, pepsis and nausea, were identified in the review.

Study designs and other criteria for inclusion in the review
The study designs of the included articles were not specified and inclusion criteria were not reported.

Sources searched to identify primary studies
Not reported. The authors stated that a review of international literature from 1979 to 2001 was performed.

Criteria used to ensure the validity of primary studies
Not stated.

Methods used to judge relevance and validity, and for extracting data
Not stated.

Number of primary studies included
Four primary studies were included in the review.

Methods of combining primary studies
Not stated.

Investigation of differences between primary studies
Not stated.

Results of the review
The rate of reduction of cysts with the conventional treatment was equal to 60%, while with the one-day treatment it ranged from 71 to 80%. The number of adverse events was higher in patients receiving the conventional treatment than in those receiving the one-day treatment. Adverse events in the conventional group were 85% for all types, while in the one-day treatment group they ranged from 6% (convulsions) to 40% (migraine).

Measure of benefits used in the economic analysis
No summary measure of benefit was used. A cost-consequences analysis was therefore performed.

Direct costs
Only the drug acquisition cost was included in the economic analysis. Resource use and the unit costs were reported separately. Discounting was not performed because it was not relevant to the analysis (2-week treatment period). The cost data were derived using the retail price of the drugs. The cost/resource boundary was not reported. Resource use was estimated on the basis of the dosage reported in the literature. The price year was 2001.

Statistical analysis of costs
No statistical analysis of the costs was conducted.

Indirect Costs
The indirect costs were not included.

Currency
Mexican pesos (Peso).

Sensitivity analysis
No sensitivity analysis was performed.
Estimated benefits used in the economic analysis
See the 'Effectiveness Results' section.

Cost results
The average cost per patient was Peso 2,073.28 with the conventional treatment versus Peso 212.04 with the one-day treatment.

Synthesis of costs and benefits
Not relevant because a cost-consequences analysis was conducted.

Authors' conclusions
Compared with the conventional dosage, a low dosage of praziquantel for one day reduced the costs of treating patients suffering from neurocysticercosis, with similar clinical results.

CRD COMMENTARY - Selection of comparators
The rationale for the choice of the comparator was clear. Praziquantel (50 mg/kg per day for 2 weeks) is a conventional treatment for patients suffering from neurocysticercosis. However, the authors also mentioned the use of another drug for the same disease, albendazole, which showed the same effectiveness and was less costly than conventional praziquantel. It could have been useful, therefore, to also compare praziquantel 75mg/kg per day for one day with albendazole. You should decide whether conventional praziquantel represents a valid comparator in your own setting.

Validity of estimate of measure of effectiveness
A systematic review of the literature review was not undertaken. The authors did not report the rationale for the choice of the articles included. In addition, the effectiveness results of the studies included in the analysis were not combined. The authors stated that a limitation of their analysis was the small sample size in the majority of the studies included in the review. Finally, there was no statistical analysis to estimate the significance of the differences found in the effectiveness results between the two treatments.

Validity of estimate of measure of benefit
No summary measure of benefit was used.

Validity of estimate of costs
Only the drug costs were included in the analysis. The perspective of the study was unclear. The unit costs were analysed separately from resource use and the price year was reported. The authors stated that the inclusion of other direct costs and indirect costs would have resulted in favour of the one-day treatment, given its lower rate of hospitalisations. However, they did not calculate other direct and indirect costs. Moreover, no sensitivity analyses were performed, possibly due to the large difference in the cost results between the two treatments.

Other issues
The issue of the generalisability of the study results to other settings was not addressed. The costs were reported separately from the quantities of resources, but no sensitivity analyses were performed. Thus, the external validity of the analysis was low. The authors did not compare their findings with those from other studies. The authors pointed out some limitations of their study, which have been highlighted in this commentary.

Implications of the study
The study suggests that the one-day treatment with praziquantel is equally effective and less costly than conventional praziquantel usage. It is therefore recommended for patients suffering from neurocysticercosis. However, caution is required when interpreting the conclusions of the analysis due to the limitations of the present study.

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