Cost-effectiveness of paliperidone palmitate versus other antipsychotics for the treatment of schizophrenia in France

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BACKGROUND & OBJECTIVES

- Schizophrenia is a severe mental disorder, characterized by profound abnormalities in thinking and affecting language, perception, and the sense of self. This disabling and emotionally devastating illness is manifested by "positive" (e.g., delusions, hallucinations) and "negative" (e.g., blunted affect, apathy) symptoms.
- In 2003, the prevalence of schizophrenia patients in France was estimated between 300,000 and 600,000 people, with an incidence at 10,000 new patients per year.[1-2]
- Second generation antipsychotics (or atypical antipsychotics) are recommended as first line by French H.A.S. guidelines, owing to their beneficial benefit/risk ratio, whilst first generation antipsychotics (or conventional drugs) are commonly used as second line.[4] Injectable antipsychotics are mainly prescribed in the prevention of relapse because of their improved patient compliance.[4]
- This analysis assessed the cost-effectiveness of paliperidone palmitate (PLAI), a once-monthly long-acting injectable (LAI) atypical antipsychotic, compared to the most common antipsychotic strategies in France.[5]
- This is the first to assess the cost-effectiveness of antipsychotics based on French observational data.[5]

METHODS

Model Population and Structure

Patients were assumed to be stabilised after a clinical decompensation and entered the model in an initiation phase (in blue), followed by a relapse prevention phase (in white) in the case of treatment success.

- Patients could progress through four health states:
  - Stable treated (with or without adverse events)
  - Stable non-treated
  - Relapse (with or without hospitalisation)
  - Death
- Adverse events included extrapyramidal symptoms (EPS), tardive dyskinesia, diabetes and weight gain (≥7%).
- There were three causes of treatment interruption: relapse (due to lack of efficacy), switch (due to lack of tolerance) and discontinuation (due to patient decision).

Comparators

- Relevant comparators were identified by French clinical experts, including risperidone LAI (RLAI), aripiprazole LAI (ALAI), olanzapine LAI (OLAI), haloperidol decanoate (HLAI) and oral olanzapine (OO).
- The model was developed to focus on first-line regimens, therefore subsequent lines were simulated regardless of the previous line. The second line was composed of PLAI (25%), RLAI (25%), ALAI (25%) and OLAI (25%). In third line, patient received clozapine based on treatment guidelines[6,9].

RESULTS

Base case:

- PLAI was the least costly LAI and was associated with an additional cost of €514 compared to OO over 5 years.
- RLAI and PLAI were associated with the highest number of QALYs gained.
- RLAI was associated with the lowest number of relapses except vs. OLAI (1.436 vs 1.433).

Cost-utility analysis results:

- PLAI dominated ALAI, OLAI and RLAI.
- PLAI was associated with an ICR of €2,024 per QALY gained compared to OO.

Cost-effectiveness analysis results:

- PLAI dominated RLAI, ALAI and HLAI.
- PLAI was associated with an ICR of €1,828 per relapse avoided compared to OO.

Deterministic sensitivity analyses (DSA):

- One-way sensitivity analyses were conducted on PLAI input parameters.
- DSAs highlighted that treatment switch and adverse events rates had the greatest impact on QALYs gained, and discontinuation and relapse on relapse avoided.

Probabilistic sensitivity analysis (PSA):

- Monte Carlo probabilistic sensitivity analysis was performed over 10,000 iterations.

CONCLUSIONS

- PLAI was the optimal strategy in terms of cost per QALY gained and relapse avoided.
- PLAI was found to be the least expensive LAI antipsychotic from a French payer perspective.

ACKNOWLEDGEMENTS, NOTES & REFERENCES

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[12] European Medicines Agency (EMA). SPC.
Quite confusing
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Carl Selya-Hammer,
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