NUFFIELD DEPARTMENT OF
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HEALTH SCIENCES

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Parkinson's Disease:

Student EBM presentations

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The question

- 72-year old gentleman diagnosed with PD 4 years ago
- Has since been prescribed Levodopa
- Complaining of sudden jerky movements (dyskinesia), wants to know if there is an alternative medication with fewer side effects
- Having researched on the internet, he has found out that dopamine agonists are also used as a first line treatment

P	Patients with early Parkinson's Disease
I	Dopamine agonists
C	Levodopa
O	Motor complications

In patients with early PD, do dopamine agonists, as compared to Levodopa, cause fewer motor complications?

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The search and search results

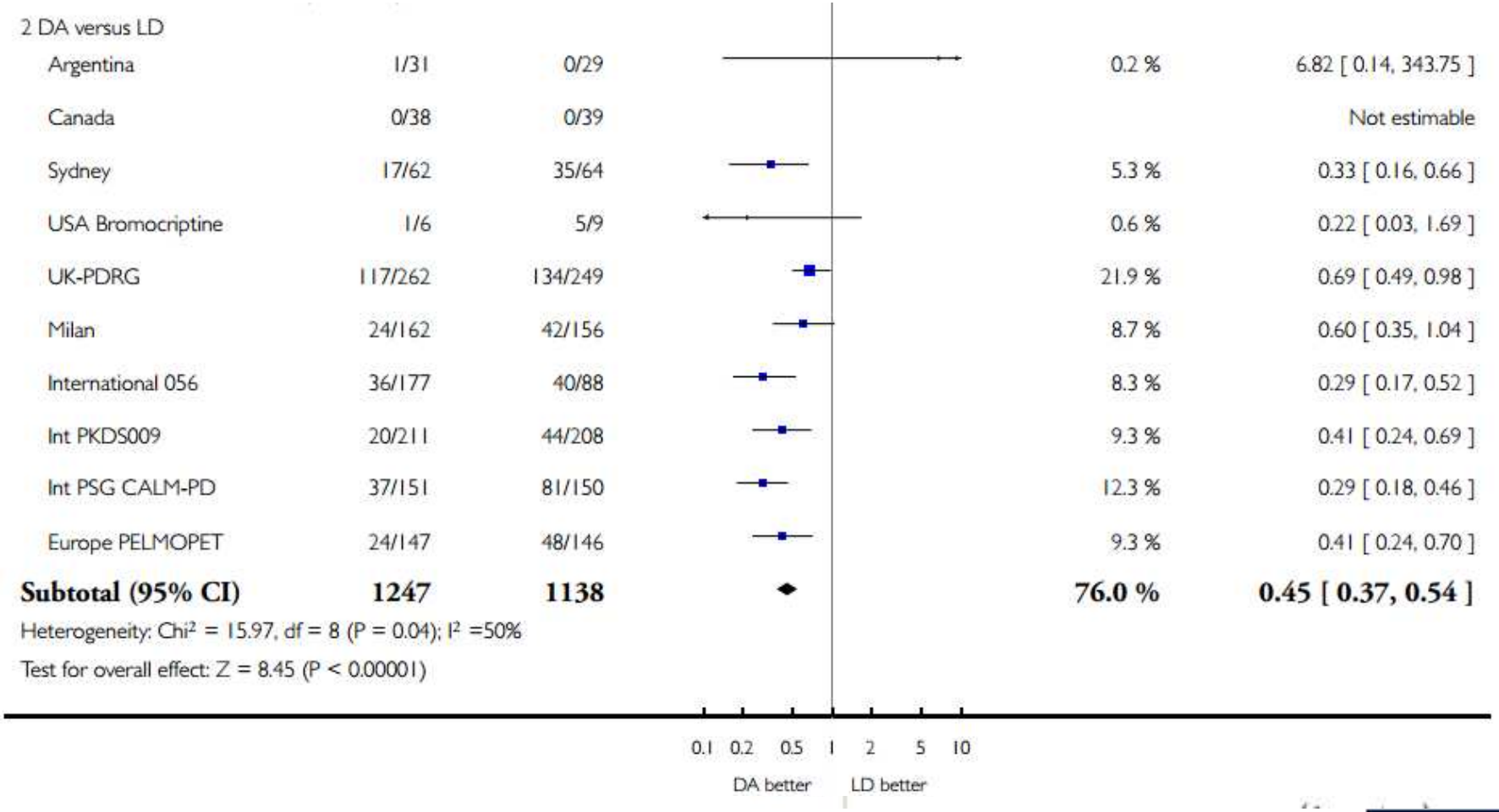
- We searched PubMed clinical queries for the following terms:
  Parkinson* AND **early** AND **dopamine** AND **agonist*** AND **Levodopa** AND **motor**
  Of the 20 systematic reviews meeting our criteria, we selected *Stowe et al, 2008* as its abstract seemed most relevant to our patient's question

The study appraisal

Dopamine agonist therapy in early Parkinson's disease (Review)

- Search methods: Searched CENTRAL (The Cochrane Library), MEDLINE, EMBASE, PubMed, LILACS and Web of Science, plus major journals in the field, abstract books, conference proceedings and reference lists of retrieved publications
- Selection criteria: Randomised trials comparing an orally administered dopamine agonist (with or without levodopa) versus placebo or levodopa or both placebo and levodopa in participants with early PD

The Results (interpretation of findings)



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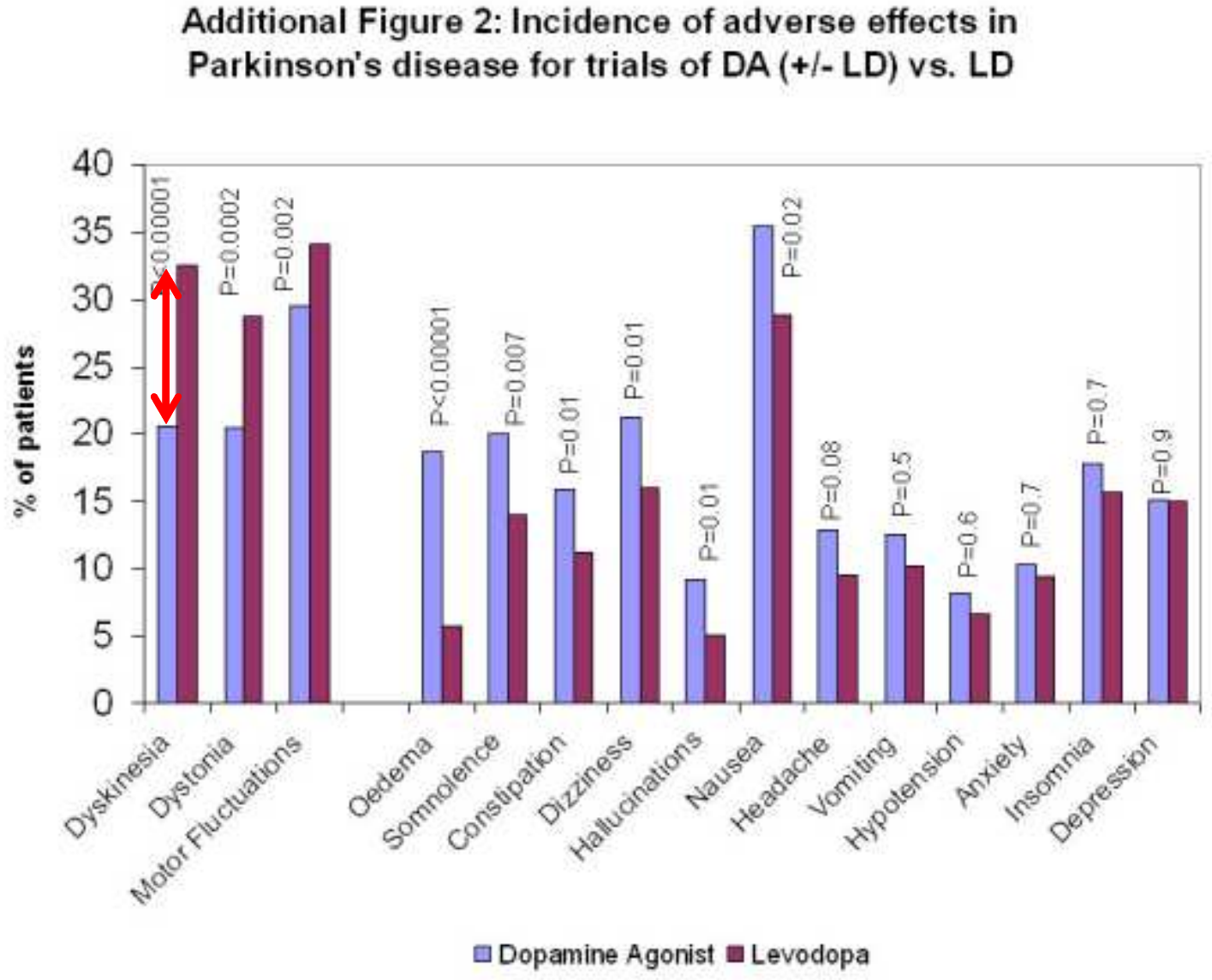
The Results (interpretation of findings)



The Implications

Table 1 Options for initial pharmacotherapy in early PD

Initial therapy for early PD	First-choice option	Symptom control	Risk of side effects	
			Motor complications	Other adverse events
Levodopa	Yes	Good degree of symptom control	Evidence of increased motor complications	Evidence of increased other adverse events
Dopamine agonists	Yes	Moderate degree of symptom control	Evidence of reduced motor complications	Evidence of increased other adverse events
MAO-B inhibitors	Yes	Limited degree of symptom control	Evidence of reduced motor complications	Evidence of increased other adverse events
Anticholinergics	No	Lack of evidence	Lack of evidence	Lack of evidence
Beta-blockers	No	Lack of evidence	Lack of evidence	Lack of evidence
Amantadine	No	Lack of evidence	Lack of evidence	Lack of evidence

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The Implications

- We would inform our patient that dopamine agonists could indeed reduce his motor complications, but may lead to other undesirable side effects, and might not control his Parkinsonian symptoms as adequately.
- It would be useful to further investigate how MAO-B inhibitors or combinatorial therapy compare regarding motor complications and symptom control.