HIGHLIGHTS

Differences in mortality at Ontario trauma centres

Large prospective studies have shown that care in a trauma centre is associated with significant improvements in mortality and functional outcomes compared with care at similarly resourced non-trauma centres. However, outcomes across similarly accredited trauma centres are not equal, even when differences in case-mix are taken into account. In 1990, Ontario's Ministry of Health and Long-term Care designated nine hospitals as adult trauma centres, and, in 2006, these centres underwent voluntary external accreditation. How have these centres performed?

Using the Ontario Trauma Registry, this retrospective cohort study looked at data on 26 421 adults admitted to a trauma centre between 2005 and 2011. Gomez and colleagues found that overall mortality in trauma centres decreased by about 3% per year (95% confidence interval [CI] 0%–5%). After adjustment for case-mix, however, significant differences in mortality were found between individual trauma centres, with a median odds ratio of 1.25 (Table).

These findings suggest that the odds of dying could be 1.25-fold greater if the same patient were admitted to one randomly selected trauma centre instead of another. The differences between centres were particularly pronounced for patients who were older or had isolated head injuries. ***CMAJ Open* 2014;2:E176-E182**

Table: Differences in trauma centre–specific adjusted mortality rates, 2005–2011

Trauma centre	Adjusted mortality rate (95% CI)
1	0.72 (0.60–0.87)
2	0.87 (0.69–1.12)
3	0.87 (0.70–1.08)
4	0.87 (0.69–1.01)
5	0.89 (0.73–1.07)
6	1.18 (0.98–1.43)
7	1.17 (0.97–1.41)
8	1.23 (0.99–1.53)
9	1.38 (1.14–1.68)
Median odds ratio	1.25

Note: CI = confidence interval.

Sulfonylurea versus metformin in type 2 diabetes

Guidelines recommend the use of metformin over sulfonylureas as monotherapy for type 2 diabetes. Sulfonylureas are currently prescribed mainly as part of a combination regimen. Even so, their use is being replaced by other classes of glucose-lowering interventions, some of which are unproven and more expensive. Do sulfonylureas have a role as monotherapy?

Hemmingsen and colleagues conducted a systematic review and meta-analysis of patient-important outcomes in studies comparing sulfonylurea and metformin monotherapy in patients with type 2 diabetes (14 trials with 4560 participants). Compared with metformin, use of second- and third-generation sulfonylurea monotherapy did not significantly affect all-cause mortality (relative risk [RR] 0.98, 95% CI 0.61–1.58] (Figure) or cardiovascular mortality (RR 0.67, 95% CI 0.54–4.01). However, sulfonylurea monotherapy significantly decreased the risk of nonfatal macrovascular outcomes (RR 0.67, 95% CI 0.48–0.93). More patients in the sulfonylurea arm had hypoglycemia (mild and severe).

All trials included in the study were judged to be at high risk of bias, and data on patient-important outcomes were sparse. The authors caution that the available data were too few and inconsistent to make firm conclusions about the benefits and harms of sulfonylurea versus metformin monotherapy. ***CMAJ Open* 2014;2:E162-E175**

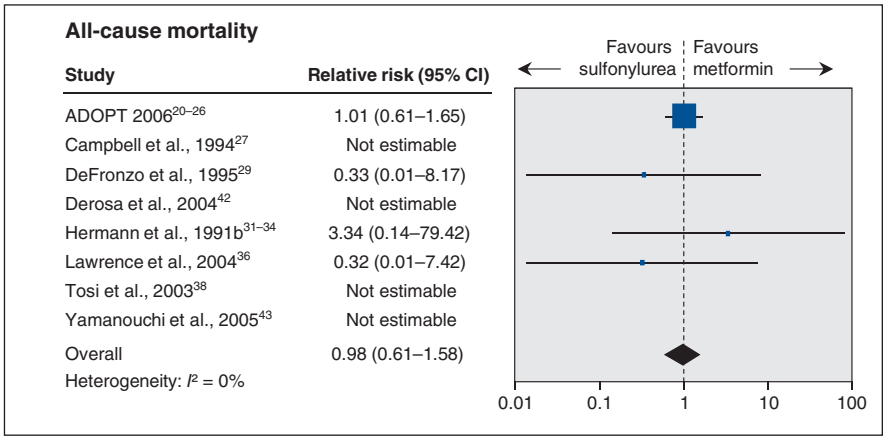

Figure: Effect of sulfonylurea versus metformin monotherapy on all-cause mortality. A relative risk of less than 1.0 indicates an effect in favour of sulfonylurea. CI = confidence interval.

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