

Telmisartan shown to reduce cardiovascular death, myocardial infarction and stroke in ACE-intolerant high-risk patients

The TRANSCEND study, using telmisartan, is the first long-term outcome study of angiotensin receptor blocker (ARB) therapy in a group of high-risk, ACE-intolerant patients and has shown telmisartan's positive benefits over a range of outcomes, including the composite of cardiovascular death, myocardial infarction and stroke. The study results were announced by Prof Teo Koon of Mc Master University, Hamilton, Canada during the hot-line session of the 2008 European Society of Cardiology congress in Munich.

The risk of cardiovascular death, myocardial infarction and stroke in these high-risk cardiovascular patients was significantly reduced by 13% using telmisartan, compared with those patients on 'placebo', yet already receiving best standard of care ($p = 0.048$).¹ This was the main secondary outcome chosen to mimic the primary endpoint of the HOPE trial.

The primary endpoint of the TRANSCEND study, namely cardiovascular death, myocardial infarction, stroke

and hospitalisation for heart failure was reduced by 8%, which was not statistically significant.

Benefit was seen using telmisartan even though the rates of myocardial infarction in TRANSCEND were much lower (1.9% per year) compared to HOPE² (3.06% per year), and the rate of heart failure in HOPE was higher at 2.4% per year compared with only 1.49% per year seen in TRANSCEND. All cardiovascular hospitalisations were significantly reduced with telmisartan (894 vs 980; $p = 0.025$).

In general, the data show that the protective effects of telmisartan were more pronounced the longer patients were on treatment, according to Prof Koon. The overall results support the findings earlier this year in the ONTARGET trial, which showed that telmisartan is as protective as ramipril, but better tolerated than the ACE inhibitor.

'The TRANSCEND results represent a moderate but important step forward for high-risk patients who cannot toler-

ate an ACE-inhibitor', commented Prof Salim Yusuf, lead investigator of the ONTARGET trial programme and director of the Population Health Research Institute at McMaster University, Canada.

Prof Teo Koon noted that the lower rates for stroke were a consistent feature of telmisartan usage in both TRANSCEND and ONTARGET. TRANSCEND included a broad cross-section of cardiovascular high-risk patients; 5 926 patients were randomised, with a mean age of 67 years. The patient population included more than 40% women; 76% of the patients were hypertensive, 36% had diabetes and 22% had had a stroke. All patients received the current best standard of care – statins, antiplatelet agents and beta-blockers and the median duration of follow-up was 56 months.

'Therapy with telmisartan was extremely well tolerated and showed a trend towards a lower rate of discontinuation than placebo', he said.

Comment by Prof Brian Rayner, University of Cape Town

Neutral studies are becoming increasingly common as patients in trials are receiving excellent concomitant medication. The neutral result of the primary outcome in TRANSCEND, although not significant, showed an overall trend in the right direction.

The design of the ONTARGET programmes has produced a tendency to over-treat blood pressure (BP). This is most evident in the results of the combination arm using an ARB and an ACE

inhibitor and strongly supported by analysis of BP responses in patients with BP < 130/80 mmHg, which showed a harmful trend in the overall study presented by Dr Peter Sleight.

On the basis of these results, I believe that the use of telmisartan in this patient group, taking due cognisance of the patient's blood pressure and avoiding over-treatment, is a sensible and sound strategy to follow.

1. TRANSCEND investigators. Effects of the angiotensin-receptor blocker telmisartan on cardiovascular events in high-risk patients intolerant to angiotensin-converting enzyme inhibitors: a randomised controlled trial. *Lancet* 31/08/2008. DOI:10.1016/S01406736(08)61242-8.
2. Heart Outcomes Prevention Evaluation study investigators. Effects of an angiotensin-converting enzyme inhibitor, ramipril, on cardiovascular events in high-risk patients. *N Eng J Med* 2000; **342**: 145–153.