



THE LARGEST EVER STUDY OF DIABETES SHOWS INTENSIVE GLUCOSE CONTROL
REDUCES SERIOUS COMPLICATIONS
有史以来规模最大的糖尿病研究证明强化降糖有助于减少严重的糖尿病并发症

“ADVANCE results go beyond existing evidence”

“ADVANCE **研究结果带来新的证据**”

New results from the world's largest ever study of diabetes treatments show that intensive blood glucose (sugar) control using modified release gliclazide and other drugs as required, protects patients against serious complications of the disease. In particular, intensive treatment reduces the risk of kidney disease by one-fifth. Presented today at the American Diabetes Association and published in the New England Journal of Medicine, the results of ADVANCE (Action in Diabetes and Vascular Disease) show that this intensive treatment strategy has the potential to benefit millions of diabetic patients worldwide.

世界有史以来最大的糖尿病治疗研究最新结果显示，利用改进的格列齐特缓释片与其他相关的必需药物对血糖水平进行强化控制，能够保护糖尿病患者免受严重并发症的威胁。特别需要说明的是，强化降糖治疗减少五分之一发生肾病的危险。今天在美国糖尿病协会大会报告，并同时在新英格兰医学杂志发表的ADVANCE (Action in Diabetes and Vascular Disease)研究结果显示，此种强化治疗策略对全世界数百万计的糖尿病患者可能带来非常大的益处。

Diabetes mellitus is one of the greatest threats to the health of populations worldwide. There are currently over 27 million people living with diabetes in China, and around 250 million people globally. This number is estimated to rise to 380 million in 2025, when the largest increases in diabetes prevalence will take place in developing countries.

糖尿病是对全球人类健康威胁最大的疾病之一。当前全世界约有二亿五千万的糖尿病患者，其中在中国约有二千七百万以上的糖尿病患者。预计全球糖尿病

患者人数在 2025 年将会攀升至三亿八千万。届时发展中国家将会取代发达国家成为拥有糖尿病流行率增长最大的地区。

Chief investigator of the study, Professor Stephen MacMahon, Principal Director of The George Institute for International Health said, "We are facing a global epidemic of diabetes. The ADVANCE results go beyond existing evidence as we have now shown that reducing the haemoglobin A1c level (a marker of blood glucose control) to 6.5% is a safe and effective way to reduce serious complications, particularly the risk of kidney disease, one of the most serious and disabling consequences of diabetes, leading to death in one in five people with diabetes." 乔治国际卫生研究中心主任兼研究项目的首席研究员 Stephen MacMahon 教授说道“我们正在面临着糖尿病的全球流行。ADVANCE 研究所带来的最新研究结果显示，将血红蛋白 A1c 水平减少至 6.5%是一种有效且安全办法，能够减少严重糖尿病并发症，尤其是减少发生肾病的危险。肾病是糖尿病引起的严重并发症之一，能够导致残疾和丧失生活能力，每五名糖尿病患者中就会有一名因并发肾病而死亡。

"Hypoglycemia (low blood sugar) was uncommon in the ADVANCE study, although as expected it was more frequent among those receiving intensive treatment," pointed out Study Director, Associate Professor Anushka Patel from The George Institute for International Health. "These findings reinforce that blood glucose lowering in diabetes is safe and has an important role to play in the prevention of serious complications."

“虽然预期强化干预治疗的患者中可能会更多地出现低血糖，但是在 ADVANCE 研究的实际过程中低血糖并不多见”。乔治国际卫生研究中心 ADVANCE 项目研究主管 Anushka Patel 副教授指出，“因此，上述发现更加确认糖尿病患者的降糖治疗是安全的，并且是预防糖尿病并发症的十分重要的方法。

"Moreover, in contrast to the recently halted ACCORD study, there was no evidence whatsoever of any increased risk of death among those receiving intensive treatment in ADVANCE."

“此外，对比在近期已经停止进行的 ACCORD 研究项目，没有任何证据显示在 ADVANCE 研究项目中研究样本由于接受强化干预手段有任何程度的增加死亡的危险。”

ADVANCE was initiated and designed by physicians at Australia's George Institute for International Health and involved a group of independent medical researchers from 20 countries worldwide. The study involved 11,140 patients with type 2 diabetes who were treated and followed up for five years. The study aimed to reduce levels of haemoglobin A1c to 6.5% or below. Intensive treatment included the sulfonylurea, modified-release gliclazide, for all patients and other drugs as required to achieve the haemoglobin target.

ADVANCE 研究项目由澳大利亚乔治国际卫生研究中心的专家发起并设计，包括了一个由全球二十多个国家的医学研究人员组成的独立的研究小组。共有 11,140 名患有 2 型糖尿病患者作为研究对象，接受了为期 5 年的干预与随访。该研究将血红蛋白 A1c 降低到 6.5% 或以下作为治疗目标。强化干预手段包括向研究对象提供磺酰脲、改进的格列齐特缓释片以及其他必需药物以达到计划所要求的血红蛋白目标水平。

The major findings of ADVANCE show that intensive blood glucose lowering treatment:

- Safely controlled blood glucose to a mean HbA1c level of 6.5%
- Significantly reduced the overall risk of serious diabetes complications (by 10%), with a one-fifth reduction in kidney disease (21%) and 30% reduction in the development of proteinuria, a well established marker of increased cardiovascular risk.
- Achieved a positive trend towards reduction in the risk of cardiovascular death (12%), although not statistically significant.

ADVANCE 主要研究发现显示强化降低血糖干预治疗：

- 安全地把糖化血红蛋白控制在 6.5% 水平以下。

- 显著地降低糖尿病导致的严重并发症的危险（降低 10%），其中包括减少五分之一机会发生肾病（21%）与减少 30% 机会发生蛋白尿。蛋白尿可以作为评估心血管疾病危险的一个较好的标记。
- 虽然降低心血管疾病死亡危险（12%）未达到统计学显著意义，但是趋向已经被肯定。

“Today, it is clear that the prevention of major vascular complications of diabetes requires a multi-factorial approach addressing all modifiable risk factors” concluded Professor John Chalmers, chairman of the study management group, “among which an intensive glucose control plays an important role, in particular in protecting the kidneys”.

“今天，我们清楚地知道糖尿病主要血管并发症的预防需要对所有可改变的危险因素进行控制”项目研究管理委员会主席 John Chalmers 教授总结认为“强化降糖扮演着其中一个重要的角色，尤其是对肾脏的保护。”

“At The George Institute, China we are working to reduce the burden of disease caused by conditions such as diabetes. This new information in the management of diabetes is directly aligned with our goal to identify practical new ways of addressing this serious health problem,” noted Director of The George Institute, China Professor WU Yangfeng.

“中国乔治中心正在为减少包括糖尿病在内的慢性病所带来的疾病负担努力地工作着。ADVANCE 研究项目结果所得到上述新信息与我们中心试图寻求解决慢性病防治的实际有效手段的目标相一致。”中国乔治中心主任武阳丰教授说。

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Notes to editor:

ADVANCE was designed, conducted, monitored, analysed and reported by a collaborative medical research group supported by the Australian Government's National Health and Medical Research

Council after full peer review. The study was carried out independently of the industry sponsor and the Management Committee, whose membership did not include any industry representatives, had final responsibility for the reporting of results.

ADVANCE 研究项目由澳大利亚政府国家健康与医学研究委员会经严格同行评议后立项资助，由一个医学研究协作组进行设计、管理、监控、分析和报告。此项研究的实施过程中没有资助企业的参与，负责最终审批研究结果报告的管理委员会也没有资助企业的代表。

Confidence Intervals: Intensive control reduced the combined major macrovascular and microvascular endpoint (18.1% vs. 20.0%; hazard ratio (HR) 0.90, 95% confidence interval 0.82 to 0.98, $p=0.013$). Major microvascular events were reduced (9.4% vs. 10.9%; HR 0.86 [0.77 to 0.97], $p=0.014$), primarily because of a reduction in nephropathy (4.1% vs. 5.2%; HR 0.79 [0.66 to 0.93], $p=0.006$), with no significant effect on retinopathy ($p>0.1$).

置信区间 (Confidence Intervals) : 强化降糖减少了主要大血管与微血管的联合终点事件 (18.1% vs. 20.0%; 风险比 (HR)为 0.90, 95% 置信区间为 0.82-0.98, $p=0.013$) 。减少了主要微血管事件 (9.4% vs. 10.9%; HR 0.86 [0.77 - 0.97], $p=0.014$) ，其中主要减少了肾病患者风险 (4.1% vs. 5.2%; HR 0.79 [0.66-0.93], $p=0.006$) ，对视网膜病变没有显著影响($p>0.1$)。

The first part of ADVANCE investigated the effects of intensive blood pressure lowering on outcome using a fixed combination of perindopril and indapamide. The results were published last year.

Reference: ADVANCE Collaborative Group; Patel A, MacMahon S, Chalmers J, Neal B et al. Effects of a fixed combination of perindopril and indapamide on macrovascular and microvascular outcomes in patients with type 2 diabetes mellitus (the ADVANCE trial): a randomised controlled trial. *Lancet* 2007; 370:829-40.

第一部分的 ADVANCE 研究项目观察了使用固定搭配的培哌普利与吲达帕胺强化降压的效果。研究结果在去年发表：ADVANCE Collaborative Group; Patel A, MacMahon S, Chalmers J, Neal B *et al.* Effects of a fixed combination of perindopril and indapamide on macrovascular and microvascular outcomes in patients with type

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The George Institute for International Health is an internationally-recognised health research organisation, undertaking high impact research across a broad health landscape. It is a leader in the clinical trials, health policy and capacity-building areas. The Institute has a global network of top medical experts in a range of research fields as well as expertise in research design, project management and data and statistical analysis. With a respected voice among global policy makers, The Institute has attracted significant funding support from governments, philanthropic organisations and corporations. George Institute research is regularly published in the top tier of academic journals internationally.

乔治国际卫生研究中心是一个全球知名的研究组织，在广泛的健康领域开展有重要影响的高质量研究。该机构在临床试验、卫生政策与能力建设等方面处于领先地位，与全球众多领域的顶级医学专家建立了合作网络，拥有一支擅长研究设计、项目管理、数据和统计分析的专业队伍。乔治中心的研究成果受到了全球各国政策制定者的重视，因此也吸引了来自政府部门、慈善组织以及企业界的广泛支持和资助。国际上最具权威的学术性杂志经常发表乔治中心的研究成果。

The National Health & Medical Research Council of Australia is the Australian Government's peak body for supporting health and medical research; for developing health advice for the Australian community, health professionals and governments; and for providing advice on ethical behaviour in health care and in the conduct of health and medical research.

澳大利亚国家健康与医学研究委员会是澳大利亚政府为支持健康和医学研究提供资助，为澳大利亚的社区、医疗卫生专业人员及政府提供健康相关建议，为在医疗和医学研究中的伦理行为提供建议的最高政府机构。

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