Tight Glycaemic Control Does More Harm Than Good?

Proposed by

Dr. Nicola Cowap

Does tight glycaemic control reduce diabetic complications?

- DCCT (type 1) ‘93
- UKPDS (type 2) ‘98.

Non-significant reductions in cardiovascular risk

What Happens with an Increased Event Rate? Part One.

- EDIC (type 1) 2005

  42% CVD risk reduction

- UKPDS 10 year follow-up (type 2) 2008

  15% risk reduction in MI in SU-insulin group

  33% in metformin group

Despite attenuation in A1c between intensively and conventionally treated groups.

Intensive Glycaemic Control
The Hidden Dangers!

What Happens with an Increased Event Rate? – Part Two

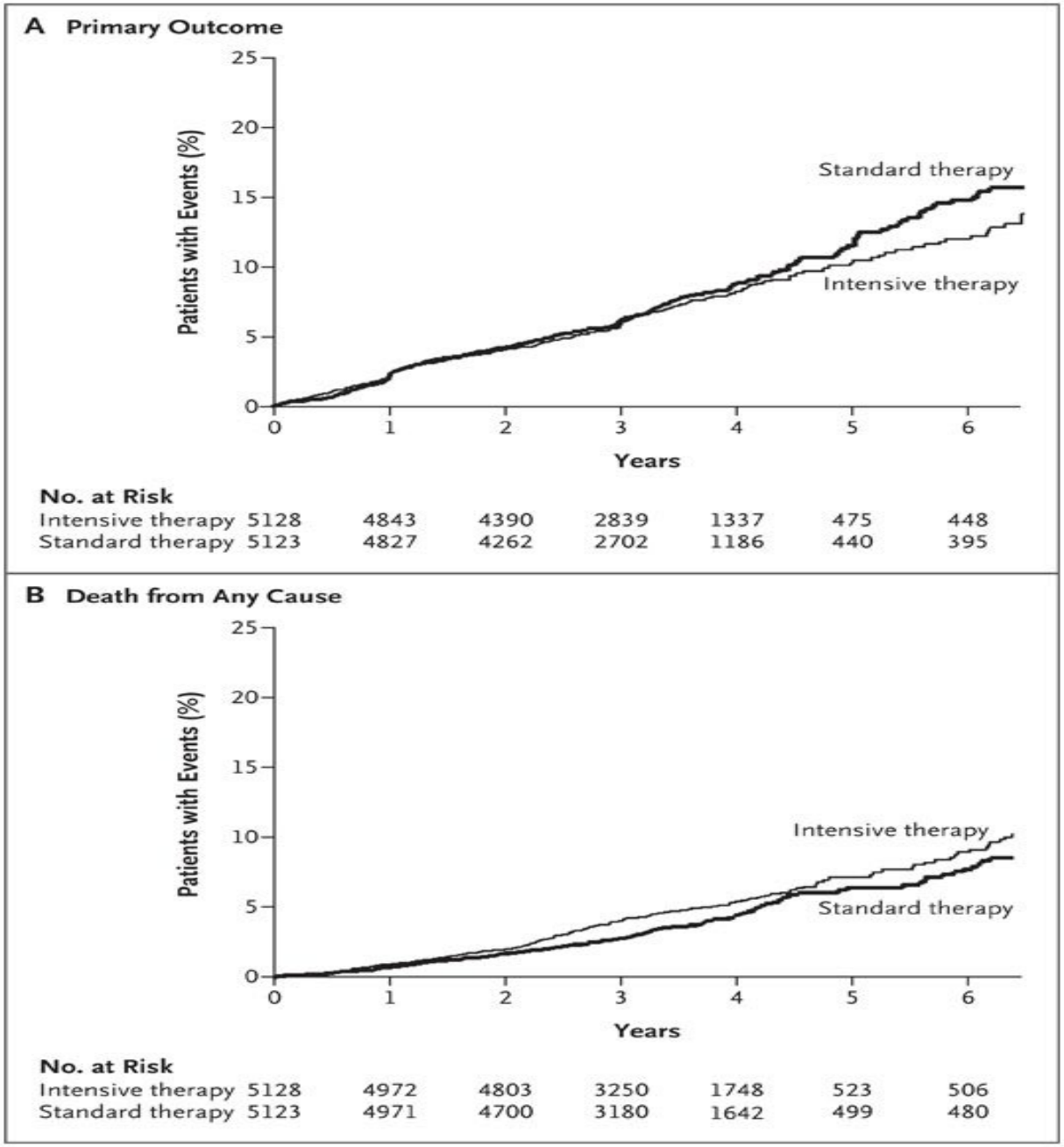
Type 2 trials.

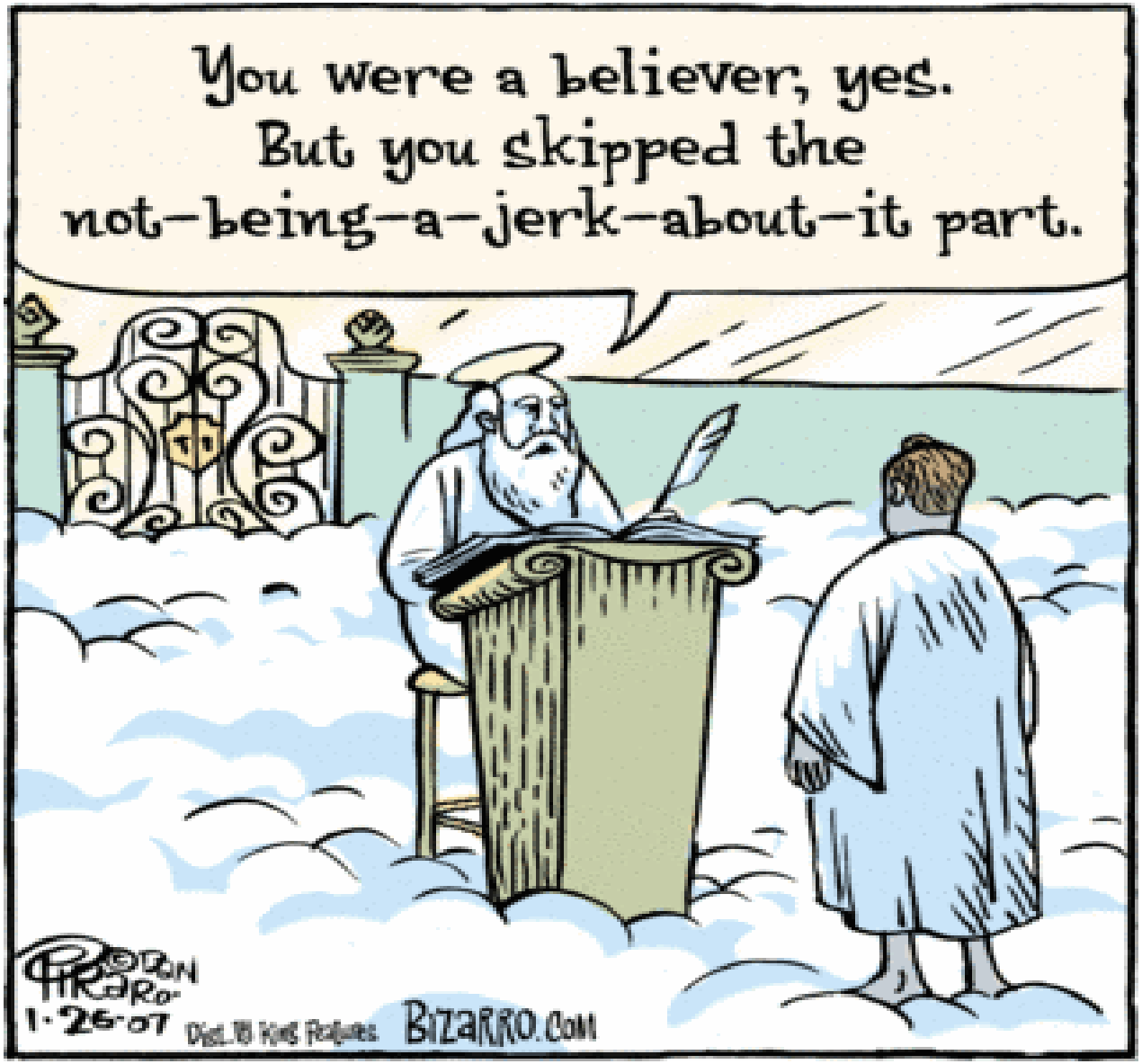
- PROACTIVE (2005)
- VADT (2009)
- ADVANCE (2008)

No significant reduction in CV mortality

- ACCORD (2008)

Mean age ~62yrs. Stopped after an average of 3.5yrs due to 22% increase in mortality in intensively treated group.


A Primary Outcome
Patients with Events (%)
25
20
15
10
5
0
Standard therapy
Intensive therapy
0
1
2
3
4
5
6
Years
No. at Risk
Intensive therapy 5128 4843 4390 2839 1337 475 448
Standard therapy 5123 4827 4262 2702 1186 440 395
B Death from Any Cause
Patients with Events (%)
25
20
15
10
5
0
Intensive therapy
Standard therapy
0
1
2
3
4
5
6
Years
No. at Risk
Intensive therapy 5128 4972 4803 3250 1748 523 506
Standard therapy 5123 4971 4700 3180 1642 499 480


You were a believer, yes.
But you skipped the
not-being-a-jerk-about-it part.
1-26-07
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Any other Evidence?

- Hemmingsen Cochrane Review, meta-analyses (2011, 2013) in 2DM no reduction in total or CV mortality, MI, stroke or ERF and 30% inc in severe hypoglycaemia.
- Kahler et al (2014) Systematic review and meta-analyses – No trend towards improving all-cause or CV mortality in intensively controlled type 1 patients.
- Kunti (2015) Retrospective cohort study – Inc. risk of CV events in insulin Rxd 2DM & 1DM patients who had hypos.

Any other Evidence?

- Leuven Studies (2001) – RCTs of surgical & medical ICU patients. Intensively treated had reductions in in-hospital morbidity & mortality.

- NICE-SUGAR (2009) - Increased mortality in the intensively treated group (27.5%vs. 24.9%) and more hypos. (6.8% vs. 0.5%).


I forgot the Sugar!!


BAD NEWS

Especially Bad News

For:-

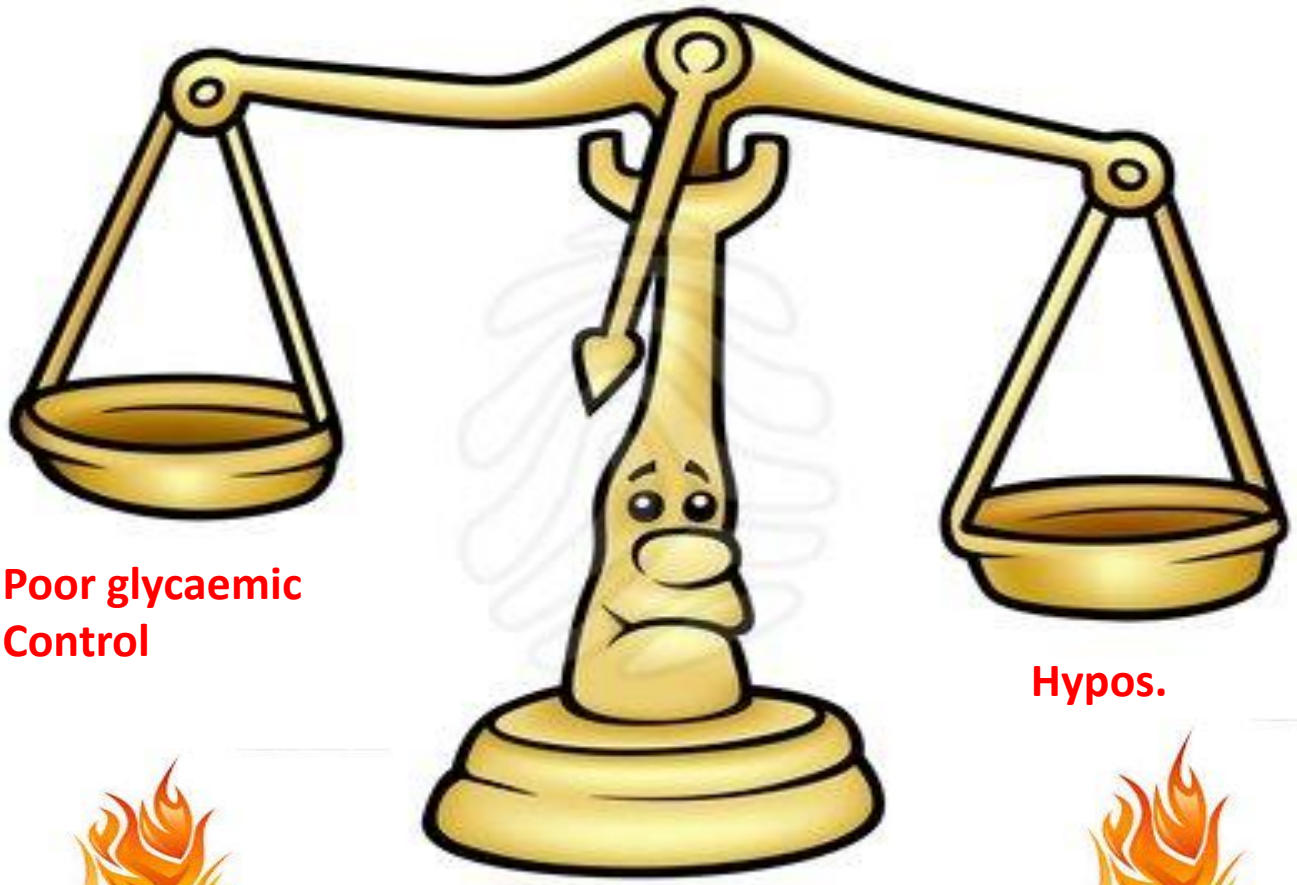
- People who drive for a living
- Elderly
- Children and adolescents

- NB. Some at higher risk of hypoglycaemia i.e elderly, children, poor renal or liver function, alcohol misuse.

Elderly

- More at risk of hypoglycaemia (and hypo. unawareness):
  - co-morbidity,
  - polypharmacy,
  - impaired counter-regulatory hormone mechanisms
- More at risk from hypoglycamia:
  - falls
  - ?increased risk of dementia
- Limited life expectancy

Children and Adolescents



Poor glycaemic Control

Hypos.

The ‘Sweet Spot?’

Currie et al (2010) –Retrospective cohort study of type 2 diabetics >50yrs from UK General Practice research database examining all-cause mortality according to decile of HbA1c.

U-shaped curve with lowest mortality at an HbA1c of 7.5%

Take Home Messages

- Tight glycaemic control is not ideal for all diabetics. Focus on those patients who are most likely to benefit and least likely to be harmed.
- Good diabetic control is not always the same as good glycaemic control.
- Any reduction in HbA1c is worthwhile in terms of reducing risk.

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WRONG
WAY

The End

That's all.
Thank you for listening!