

POSTER PRESENTATION

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# Time to start of cardiopulmonary resuscitation and the effect of target temperature management at 33°C and 36°C

J Dankiewicz<sup>1\*</sup>, T Cronberg<sup>2</sup>, D Erlinge<sup>3</sup>, H Friberg<sup>1</sup>, C Hassager<sup>4</sup>, J Horn<sup>5</sup>, J Hovdenes<sup>6</sup>, J Kjaergaard<sup>4</sup>, M Kuiper<sup>7</sup>, Y Gasche<sup>8</sup>, T Pellis<sup>9</sup>, P Stammet<sup>10</sup>, M Wanscher<sup>4</sup>, J Wetterslev<sup>11</sup>, MP Wise<sup>12</sup>, A Åneman<sup>13</sup>, N Nielsen<sup>14</sup>

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## Introduction

The optimal target temperature for comatose patients resuscitated from out of hospital cardiac arrest is unknown. It has been hypothesized that patients with long no-flow times, for example those without bystander CPR would have the most to gain from temperature management at lower temperatures [1]. The generalizability of the TTM-trial [2] has been questioned because of a high fraction of patients receiving bystander cardiopulmonary resuscitation (CPR) (73%) and a median start of basic life support (for patients with bystander CPR) of 1 minute (Interquartile range 1-2 minutes).

## Objectives

The aim of this study was to explore any potential interaction between temperature and no-flow time to investigate whether patients who had longer periods of cerebral ischemia had a better response to the lower target temperature of 33°C in the TTM-trial [2].

## Methods

We analysed data from an international clinical trial randomizing cardiac arrest patients to targeted temperature management at 33°C and 36°C for an interaction between no-flow time and intervention group, with neurological function at 180 days after cardiac arrest as the primary outcome. A cerebral performance category (CPC) score of 1 or 2 was considered a good outcome. The interaction term was included in a multivariate logistic model adjusting for design variables in the TTM-trial.

## Results

The interaction between no-flow time and temperature group was not significant. Adjusted predictions showed no difference in the probability of a good neurological outcome for any value of no-flow time (Fig 1). In the group of patients with more than eight minutes of no-flow time the difference in the average predicted probability of a poor outcome was -0.018 (95% CI -0.17 - 0.13,  $p = 0.81$ ) i.e. a non-significant decrease of 1.8% in the probability of a poor neurological outcome for patients treated at 36°C.

## Conclusions

The neutral effect of the two temperature levels was consistent for all no-flow times.

The hypothesis that the efficacy of target temperature at 33°C vs. 36°C is influenced by no-flow time could not be supported.

## Grant Acknowledgment

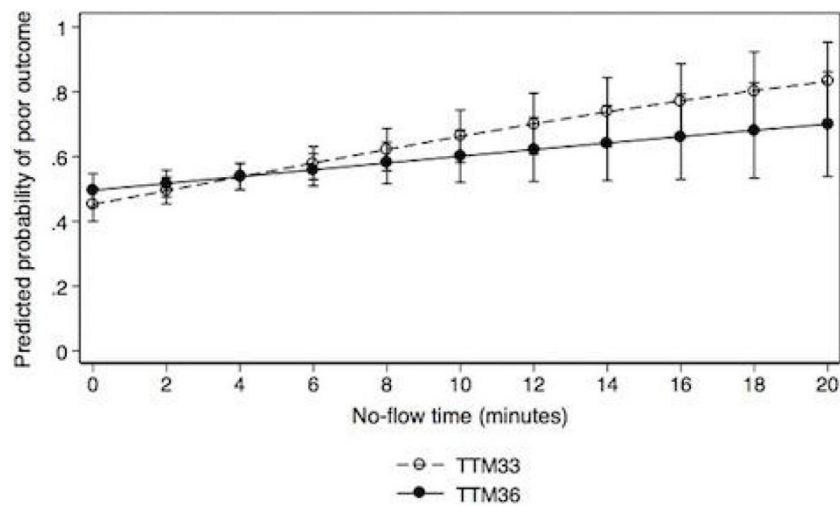
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## Authors' details

<sup>1</sup>Skåne University Hospital, Department of Anesthesiology and Intensive Care, Lund, Sweden. <sup>2</sup>Skåne University Hospital, Department of Neurology, Lund, Sweden. <sup>3</sup>Skåne University Hospital, Department of Cardiology, Lund, Sweden. <sup>4</sup>The Heart Center, Copenhagen University Hospital, Copenhagen, Denmark. <sup>5</sup>Academic Medical Centre, Department of Intensive Care, Amsterdam, Netherlands. <sup>6</sup>Rikshospitalet, Oslo University Hospital, Department of Anesthesiology, Oslo, Norway. <sup>7</sup>Department of Intensive Care, Leeuwarden Hospital, Leeuwarden, Netherlands. <sup>8</sup>Geneva University Hospital, Department of Intensive Care, Geneva, Switzerland. <sup>9</sup>Santa Maria degli

<sup>1</sup>Skåne University Hospital, Department of Anesthesiology and Intensive Care, Lund, Sweden

Full list of author information is available at the end of the article



**Figure 1**

Ángeli, Department of Intensive Care, Pordenone, Italy. <sup>10</sup>Centre Hospitalier de Luxembourg, Department of Anesthesiology and Intensive Care, Luxembourg, Luxembourg. <sup>11</sup>Copenhagen Trial Unit, Copenhagen, Denmark. <sup>12</sup>University Hospital of Wales, Adult Critical Care, Cardiff, United Kingdom. <sup>13</sup>Liverpool Hospital, Department of Intensive Care, Sydney, Australia. <sup>14</sup>Helsingborg Hospital, Department of Anesthesiology and Intensive Care, Helsingborg, Sweden.

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