A risk prediction model for ICU-acquired weakness

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A risk prediction model, using patient characteristics, early available clinical parameters, laboratory results and use of medication as parameters could reliably predict the risk of ICU-AW two days after ICU admission.

Ethische beoordeling	Niet van toepassing
Status	Werving gestopt
Type aandoening	-
Onderzoekstype	Observationeel onderzoek, zonder invasieve metingen

Samenvatting

ID

NL-OMON27594

Bron
NTR

Verkorte titel
WARP

Aandoening

Intensive Care Unit (ICU)-acquired weakness

Ondersteuning

Primaire sponsor: Academic Medical Center (AMC), Department of Intensive Care
Overige ondersteuning: Academic Medical Center (AMC), Department of Intensive Care

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Predictive performance (discrimination, calibration and classification) of a risk prediction model for ICU-AW.

Toelichting onderzoek

Achtergrond van het onderzoek

Intensive Care Unit–acquired weakness (ICU–AW) is a frequent and debilitating complication of critical illness. It is important to identify ICU-AW early after onset of critical illness to provide accurate prognostic information to patients and their families and to enable timely initiation of supportive interventions, like intensive physiotherapy and tracheostomy. Using the current diagnostic reference standard, assessment of muscle strength using the Medical Research Council (MRC) score, an early diagnosis of ICU–AW is frequently precluded due to impaired consciousness or attentiveness.
A prediction model using easily available data might be able to predict the risk of ICU-AW and might enable early interventions. In a previous study, we found that it was possible to predict the risk of ICU-AW using simple and widely available data. However, that risk prediction model was based on single center data which limits the generalizability. Therefore we aim to validate and update the risk prediction model for ICU-AW using prospective data from multiple centers.

Doel van het onderzoek

A risk prediction model, using patient characteristics, early available clinical parameters, laboratory results and use of medication as parameters could reliably predict the risk of ICU-AW two days after ICU admission.

Onderzoeksopzet

At 48 hours after ICU admission, after screening of the in-and exclusion criteria, the patient will be included in the study. Thereafter the candidate predictors will be collected from the patient file. As soon as the patient is awake and attentive the attending physiotherapist will assess the muscle strength of the patient.

Onderzoeksproduct en/of interventie

At 48 hours after ICU admission, patient characteristics, early available clinical parameters, laboratory results and use of medication parameters will be collected from the patient file. The candidate predictors are: age, gender, pre-existent polyneuropathy, polyneuropathy risk factor, systemic corticosteroid use prior to ICU admission, unplanned admission, suspected sepsis, presence of shock, RASS score, average urine production, highest glucose, lowest glucose, lowest pO2, FiO2 at lowest pO2, lowest pH, highest lactate, lowest platelets, lowest ionized calcium, highest ionized calcium, lowest phosphate, red blood cell transfusion, treatment with any corticosteroid, repeated treatment with any neuromuscular blocker and treatment with any aminoglycoside.
Muscle strength will be investigated by the attending physiotherapist, using the Medical Research Council (MRC) sumscore to assess the presence of ICU-AW.

Contactpersonen

Publiek

Postbus 22660, C3-329
Janneke Horn
Amsterdam 1100 DD
The Netherlands
+31 (0)20 5669111

Wetenschappelijk

Postbus 22660, C3-329
Janneke Horn
Amsterdam 1100 DD
The Netherlands
+31 (0)20 5669111

Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

-Adult patients newly admitted to the ICU

-Mechanically ventilated at 48h after admission

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

- Cardiac arrest, any central nervous system (CNS) disorder (stroke, traumatic brain or spinal injury, CNS infection, CNS tumor) or neuromuscular disease as reason for admission

- Pre-existing spinal injury

- Poor pre-hospital functional status (modified Rankin score ≥4)

- Poor prognosis; death likely within 48 hours after inclusion

Onderzoeksopzet

Opzet

Type:	Observationeel onderzoek, zonder invasieve metingen
Onderzoeksmodel:	Anders
Blindering:	Enkelblind
Controle:	N.v.t. / onbekend

Deelname

Nederland

Status:	Werving gestopt
(Verwachte) startdatum:	01-01-2014
Aantal proefpersonen:	500
Type:	Werkelijke startdatum

Ethische beoordeling

Niet van toepassing

Soort:	Niet van toepassing

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

Geen registraties gevonden.

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

Register	ID
NTR-new	NL4180
NTR-old	NTR4331
Ander register	METC reference number : W13_193#13.17.0239
ISRCTN	ISRCTN wordt niet meer aangevraagd.

Resultaten

Samenvatting resultaten
N/A