Using diaphragm EMG in patient ventilator asynchrony

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The occurrence of PVA in mechanically ventilated children is higher than reported during visual inspection of the pressure – time and flow – time tracings when this is combined with non-invasive diaphragmatic and intercostal muscle EMG monitoring.

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

Samenvatting

ID

NL-OMON24963

Bron
NTR

Verkorte titel
n/a

Aandoening

Longaandoeningen welke kunstmatige beademingen behoeven

Respiratory failure in need of mechanical ventilation

Ondersteuning

Primaire sponsor: University Medical Center Groningen
Overige ondersteuning: University Medical Center Groningen

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Incidence of patient-ventilator-asynchrony.

Toelichting onderzoek

Achtergrond van het onderzoek

Patient-ventilator asynchrony can lead to considerable patient distress, lead to increase used of sedatives. Surprisingly, relatively little is known about its incidence in mechanically ventilated children.

Currently, PVA can be detected in three different ways. At present, the most readily available method to detect PVA is analyzing the waveforms (the pressure-time, flow-time and volume-time waveform) displayed by the ventilator to detect PVA. However, for a true assessment of the occurrence of PVA it is mandatory to know if there is any patient effort before the ventilator delivers a breath. This can be most reliable method by detected by observing oesophageal pressure waveforms. Alternatively, electrical activity of the respiratory muscles has also been used to study PVA. EMG activity – especially of the diaphragm – also indicates patient effort. We hypothesized that the occurrence of PVA in mechanically ventilated children is higher than reported during visual inspection of the pressure – time and flow – time tracings when this is combined with non-invasive diaphragmatic and intercostal muscle EMG monitoring. Recruitment: the Netherlands

Doel van het onderzoek

The occurrence of PVA in mechanically ventilated children is higher than reported during visual inspection of the pressure – time and flow – time tracings when this is combined with non-invasive diaphragmatic and intercostal muscle EMG monitoring.

Onderzoeksopzet

Daily recordings (2x15 minutes)

Onderzoeksproduct en/of interventie

n/a

Contactpersonen

Publiek

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Wetenschappelijk

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

- all patients who require mechanical ventilation aged 0-18 years

- patients should be able to trigger the ventilator with a pre-set flow trigger of 1 liter/min

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

- premature birth with gestational age corrected for post-conceptional age less than 40 weeks

- congenital or acquired neuromuscular disorders

- congenital or acquired central nervous system disorders with depressed respiratory drive

- severe traumatic brain injury (i.e. Glasgow Coma Scale < 8)

- congenital or acquired damage to the phrenic nerve

- congenital or acquired paralysis of the diaphragm

- use of neuromuscular blockade

- chronic lung disease

- severe pulmonary hypertension

Onderzoeksopzet

Opzet

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

Deelname

Nederland

Status:	Werving nog niet gestart
(Verwachte) startdatum:	01-10-2014
Aantal proefpersonen:	83
Type:	Verwachte 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	NL4350
NTR-old	NTR4706
Ander register	M13.143975 ID toegekend door lokale METc : Ped.PVA.EMG.1 Lokaal protocol nummer

Resultaten