

2016년 대한천식알레르기학회 추계학술대회



Plenary Lecture: KAAACI-EAACI



- 날짜: 2016년 11월 5일 (토)
- 좌장: 이예란(한림의대 소아청소년과)

1. The evaluation of perioperative drug hypersensitivity reaction
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Perioperative reactions

AMC, University of Amsterdam, Netherland

Ingrid Terreehorst

The incidence of perioperative reactions is very different between countries. This is partially because recognition and registration may be hampered but also local factors such as medication use in the general population may influence sensitivity to systemic anesthetics.

Patients with an anaphylactic reaction perioperatively should be investigated fully by an allergy expert. This evaluation should not only include the systemic anesthetics but also other materials used in theatre such as disinfectants, and materials used by the surgeon, such as liquid uses for rinsing the wound.

Furthermore, optimisation of the way we perform skin tests is required, not only the technique and the read out procedure but also the way we prepare tests can influence our results. The method used for dilutions and the way we keep the materials can influence our test results

Therefore, cooperation is needed as well as free exchange of protocols.

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Conflicts of Interest

- ▣ Advisory Board of ALK
- ▣ Advisory Board of Meda Pharma

Subjects

- ▣ Epidemiology
- ▣ Searching for the culprit
- ▣ Pitfalls of diagnostics

Epidemiology

Epidemiology

- ▣ PM Mertes, LH Garvey et al
- ▣ La Presse Medicale, 2016
- ▣ Anaphylaxis
 - Japan 1 : 18,600 procedures
 - France 100.6 : 1,000,000 procedures

Epidemiology

- ▣ Non specific histamine release
- ▣ IgE mediated reactions

Epidemiology

- ▣ Culprit drugs
- ▣ France
 - Adults
 - ▣ Neuromusculair blocking agents
 - ▣ Latex
 - ▣ Antibiotics
 - ▣ Female predominance
 - Children
 - ▣ Latex
 - ▣ Neuromusculair blocking agents
 - ▣ Antibiotics
 - ▣ No female predominance

Epidemiology

Gonzalez et al, JACI in Practice, 2015

- ▣ United States
 - Antibiotics 59%
 - Latex 18%
 - Neuromuscular blockers 23%

Epidemiology

- ▣ Culprit drugs
- ▣ Available drugs
- ▣ Cross reactivity with other products
 - Pholcodine (opioid antitussive)
 - Tertiary and / or quaternary ammonium compounds in cosmetics, disinfectants

Searching for the culprit

Searching for the culprit

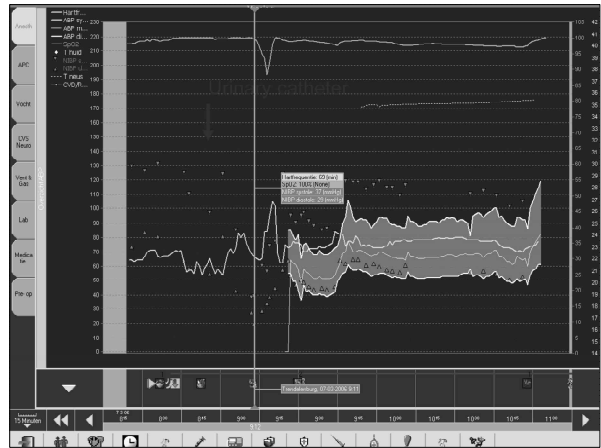
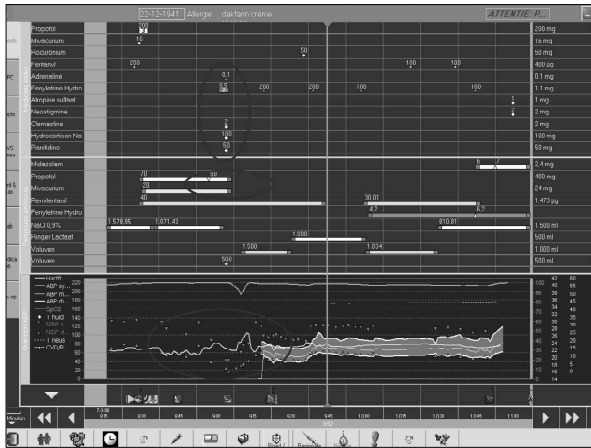
- ▣ Collecting information
 - Pre operative medication
 - Per operative medication
 - Surgical materials

Searching for the culprit

- ▣ Pre operative medication
 - Regular medication of the patient
 - ACE inhibitors
 - Paracetamol/NSAIDS

Searching for the culprit

- ▣ Per operative medication
 - Anesthesiology report
 - Surgeon's report



Problems in drug allergy - information

- Additional materials in theatre
 - Latex
 - Chlorhexidin
 - Plasma expanders
 - Colloids
 - Gelatins, dextrans
 - Lidocaine
 - Ethylene oxide
 - Sugammadex
 - Binding of NMBA

Searching for the culprit

- Surgical materials
 - Rinsing the wound
 - Triarylmethane dyes
 - Patent blue
 - Isosulfan blue
 - Methylene blue
 - Bone cement
 - Liquid methyl methacrylate
 - Antibiotic loaded

Pitfalls in diagnostics

Pitfalls of diagnostics

- Skin tests
- Specific IgE
- Provocation tests

Pitfalls of diagnostics – skin test

- ▣ Skin prick test
- ▣ Intracutaneous test

Pitfalls of diagnostics – skin test

- ▣ Technique
- ▣ Preparing test materials
- ▣ Reading the test

Pitfalls of diagnostics – skin test

- ▣ Technique
- ▣ Skin prick test
 - Preparing the test
 - Droplets
 - Setting the alarm
 - Puncturing the skin

Pitfalls of diagnostics – skin test

- ▣ Technique
- ▣ Intracutaneous testing
 - Preparing the test
 - 0,02 ml
 - Eye of the needle
 - Location
 - Lower arm
 - Upper arm
 - Upper back

Pitfalls of diagnostics – skin test

- ▣ Preparing test materials
 - Who prepares the test
 - Nurse in department?
 - Pharmacy?
 - Concentrations
 - ENDA paper
 - Own series

Pitfalls of diagnostics – skin test

- ▣ Preparing test materials by pharmacy
 - Dilution method
 - Storage
 - Room temperature
 - Fridge
 - Maximum time of use
 - 1 to 48 hours

Pitfalls of diagnostics – skin test

- Ropivacaine 2 mg/ml
- Dilution fluid NaCl 0,9%
- Dilution steps
 - 0,2 mg/ml - 0,02 mg/ml - 0,002 mg/ml
- Storage
 - In fridge
 - 24 hours

Pitfalls of diagnostics – skin test

- Reading the test
 - Diameter
 - Estimation
 - Digitalised reading

Pitfalls of diagnostics – skin test

- ENDA
 - 0,02 ml
 - Eye of the needle up
 - Pen line not included
 - Diameter
 - Increase of 3 mm compared to baseline

Pitfalls of diagnostics

- Specific IgE
 - Few available
 - Sensitivity/specificity

Pitfalls of diagnostics – provocation tests

- Regular
- Experimental

Pitfalls of diagnostics – provocation tests

- Regular
 - Antibiotics
 - Local anesthetics
 - NSAIDS/paracetamol
 - etc

Pitfalls of diagnostics – provocation tests

- ❑ Regular
- ❑ Dosage
- ❑ Interval between 2 doses
 - Oral, subcutaneous: 45 minutes
 - IV 30 minutes

Pitfalls of diagnostics – provocation tests

- ❑ Experimental
- ❑ Systemic anesthetics
 - Propofol
 - Sufentanyl
 - Rocuronium

Pitfalls of diagnostics – provocation tests

- ❑ Systemic anesthetics
- ❑ 30 minutes between doses
- ❑ 2 provocations per day, 60 minutes between 2 provocations
- ❑ 2 hrs observation after last dose

Pitfalls of diagnostics – provocation tests

- ❑ Propofol
 - 0,1 - 1,0 - 10 mg
- ❑ Sufentanyl
 - 0,005 mcg - 0,05 mcg - 0,5 mcg
- ❑ Rocuronium
 - 0,1 - 1 - 10% of normal dosage for age and weight

Where do we go from here?

- ❑ Good registration of perioperative reactions
- ❑ Uniformity in skin tests
 - Preparation
 - Procedure
 - Reading out

Where do we go from here?

- ❑ Uniformity in provocation tests
 - Regular provocations
 - Systemic anesthetics
 -

Where do we go from here?

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