Treatment of acute hypersensitivity reaction after contrast administration

- **History and Physical Exam (Physician Radiology)**
  - A (Airway): wheezing, stridor
  - B (Breathing): auscultation lungs/throat, SaO2
  - C (Circulation): Pulse, RR, pulsations
- Inspection of the entire skin
- **Stop infusing contrast agent and replace iv line with crystalloid**

Determine reaction type:

- Mild reactions → **Mild reactions**
- Severe reactions → Determine serum tryptase after 1-2h
- Moderate reactions → Determine serum tryptase after 1-2h

Mild reactions
Sneezing, conjunctivitis, nose obstruction, watery eyes, nausea, vomiting, mild scattered urticaria (less than 10)

- Reassure patient
- Maintain IV access
- IV Drip 500ml NaCl 0.9%
- Observe ≥ 30 minutes with IV in place
- When needed: ondansetron 4mg IV if vomiting is protracted
- When needed: prescription desloratadine 5mg PO 1dd for itching
- When needed: consult SIT Team

→ No further medication and observe

Type of moderately/ severe reaction:

- Mild bronchospasm → **Mild Bronchospasm**
- Facial / angioedema → **Facial/Angioedema**
- Generalised Urticarioa or Diffuse Erythema → **Generalised Urticaria/ Diffuse Erythema**

Mild Bronchospasm
Cave respiratory threat

- O2 via mask 10-15 l/min
- Salbutamol nebulization 2.5-5mg or salbutamol dose-aerosol 2-3 deep inhalations 100µg
- When needed: repeat salbutamol nebulization 2.5mg

Does severity increase?

- No → No further medication and observe
- Yes →
  - Epinephrine (1:1.000) 0.5mg IM
  - When needed: Epinephrine (1:1.000) 0.5mg IM repeat after 5min

Protracted reaction?

- No → No further medication and observe
- Yes →
  - Add Prednisolone 50mg* slowly IV
  - When needed: consult SIT Team

Do symptoms improve?

- Yes → No further medication and observe
- No → Anaphylaxis

Generalised Urticaria/ Diffuse Erythema
Cave hypotension

- IV 1000 ml NaCl 0.9%, in 1h
- Clemastine 2mg IV
- When needed: Clemastine 2mg IV repeat after 5 min

Measure RR:

- ≥90 → No further medication and observe
- <90 →
  - Active elevation legs
  - When needed: consult SIT Team

Facial/Angioedema
Cave laryngeal edema

- O2 via mask 10-15 l/min
- IV 1000ml NaCl 0.9%, in 1h
- Clemastine 2mg IV
- When needed: Clemastine 2mg IV repeat after 5 min

Severe or stridor/ laryngeal edema?

- No → No further medication and observe
- Yes →
  - Sitting position
  - When needed: consult SIT Team

Anaphylaxis:

- CONSULT SIT TEAM
- O2 via mask 10-15 l/min
- IV 500ml NaCl 0.9% in 10min
- When needed: repeat IV NaCl 0.9%
- Epinephrine (1:1.000) 0.5mg IM
- When needed: repeat Epinephrine (1:1.000) 0.5mg IM after 5min
- Clemastine 2mg IV
- Prednisolone 50mg slowly IV*
- When needed: repeat clemastine 2mg IV
- When needed: Salbutamol 5mg nebulization
- When needed: intubation and ICU

Cardiac or Respiratory Arrest:

- **CALL RESUSCITATION TEAM**
- Start cardiopulmonary resuscitation
- Epinephrine IV only via resuscitation team

→ Transfer to clinical department

* Or other corticosteroid in comparable dosage

Abbreviations:
SIT team: Spoed Interventie Team (Emergency Intervention Team)

Nederlandse Vereniging voor Radiologie
Radiological Society of the Netherlands
Initiatiefnemende vereniging

Federatie Medisch Specialisten
Developed by the Knowledge Institute for Medical Specialists, the Netherlands

©2019 Version 1 (29-10-2019)