



Teaching Module III

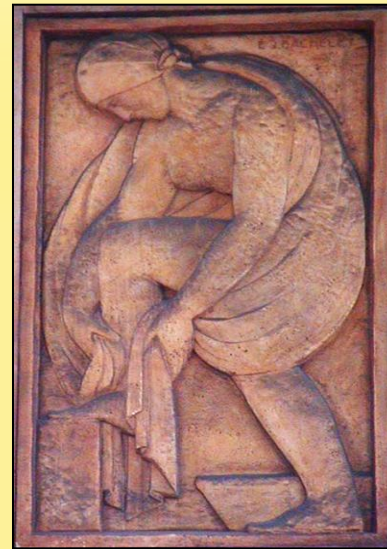
Delayed reactions to intravascular iodinated contrast media



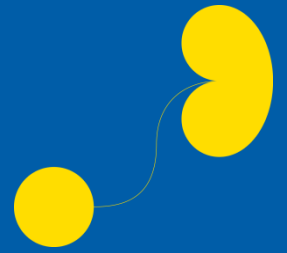
Delayed reactions to intravascular iodinated contrast media

This slide deck was prepared by:

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Delayed adverse reactions



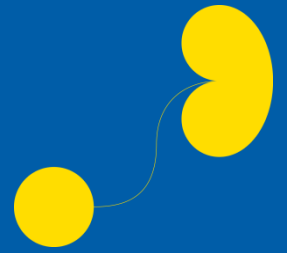
- Develop more than one hour but within 7 days of contrast injection
- Mild or moderate in most cases

Types

- Non-specific symptoms
- Skin reactions



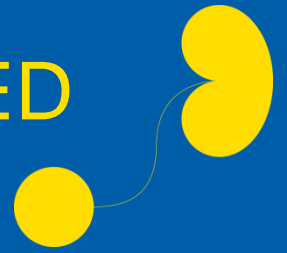
Non-specific delayed reactions



- Flu-like illness
- Arthralgia, aches and pains
- Parotitis
- Fever
- Abdominal pain
- Headache



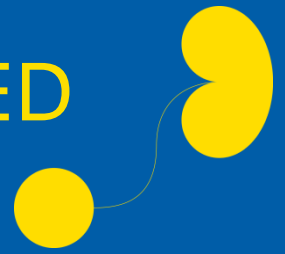
INCIDENCE OF NON-SPECIFIC DELAYED REACTIONS



Difficulty of verifying that these non-specific adverse events occurring many hours after contrast administration are directly caused by CM.



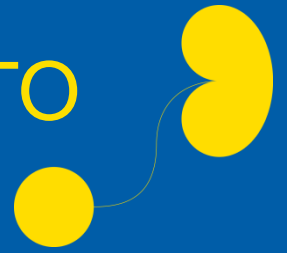
INCIDENCE OF NON-SPECIFIC DELAYED REACTIONS



- CT with IV CM enhancement 12.5%
- CT without CM enhancement 10%



DELAYED ALLERGY-LIKE REACTIONS TO CM WITH SKIN MANIFESTATIONS

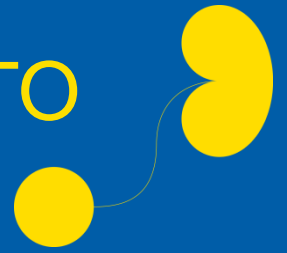


Incidence

- 0.5-1% with ionic CM and non-ionic monomers
- 2- 4% with non-ionic dimers



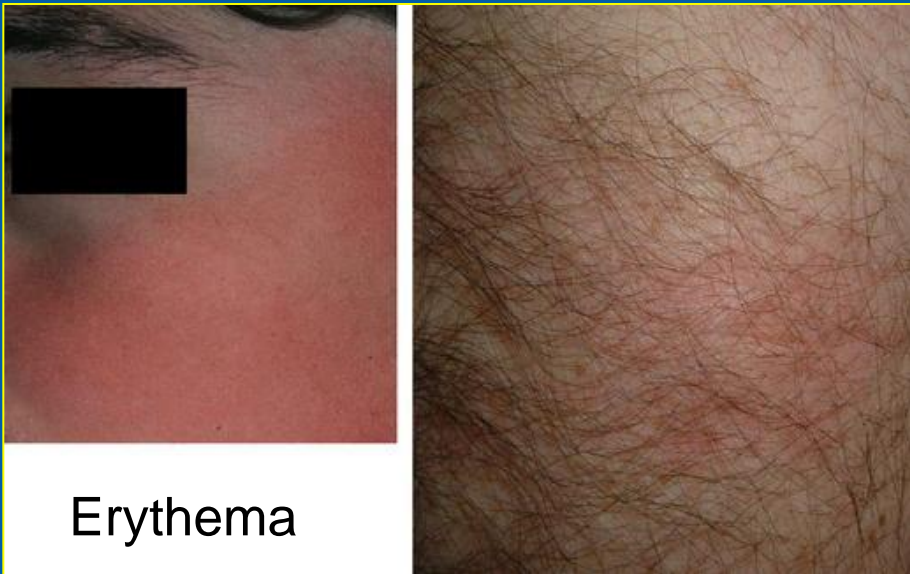
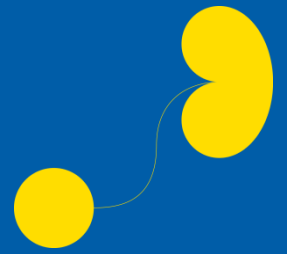
DELAYED ALLERGY-LIKE REACTIONS TO CONTRAST MEDIA



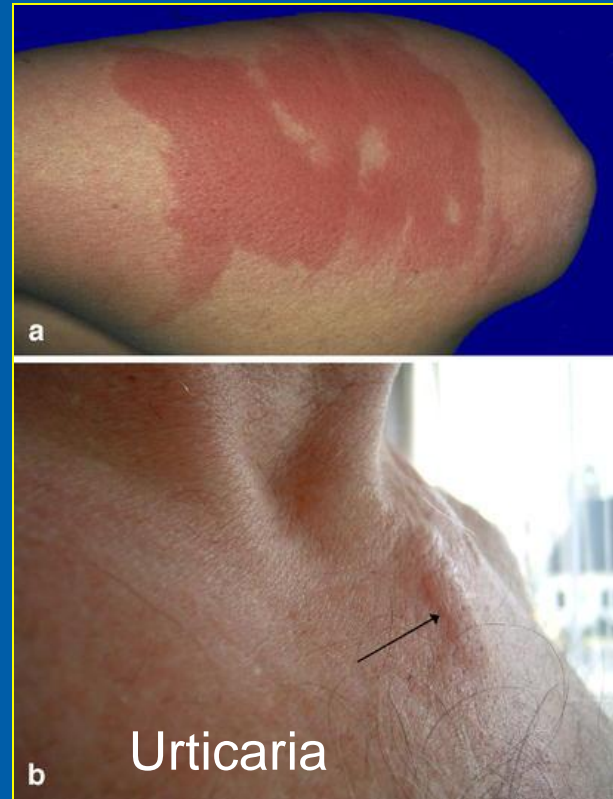
- Types of skin reactions
 - Maculopapular
 - Exanthematous
 - Urticaria
 - Angioedematous
- Appear 3 h to 2 days post contrast injection
- Often disappear within a week



Böhm et al., Eur Radiol 2006



Erythema



a

b

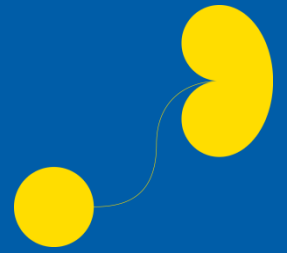
Urticaria



Angioedema



Böhm et al., Eur Radiol 2006



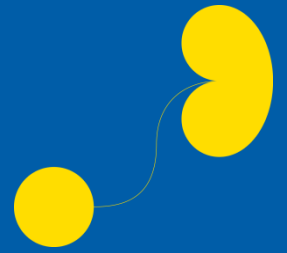
Macropapular exanthema



Erythema



DELAYED ALLERGY-LIKE SKIN REACTIONS TO CONTRAST MEDIA

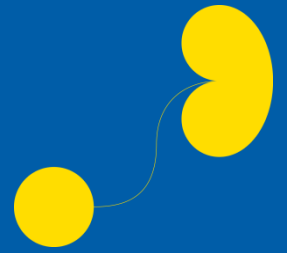


Predisposing factors

- Previous contrast medium reaction
- History of allergy
- Interleukin-2 treatment
- Being of Japanese descent



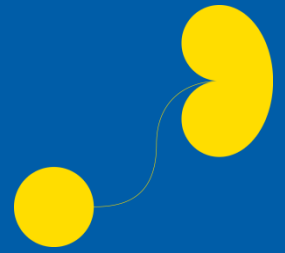
DELAYED ALLERGY-LIKE SKIN REACTIONS TO CONTRAST MEDIA



Mechanism

- Increasing evidence that these reactions are T-cell mediated (Type VI delayed hypersensitivity reaction)

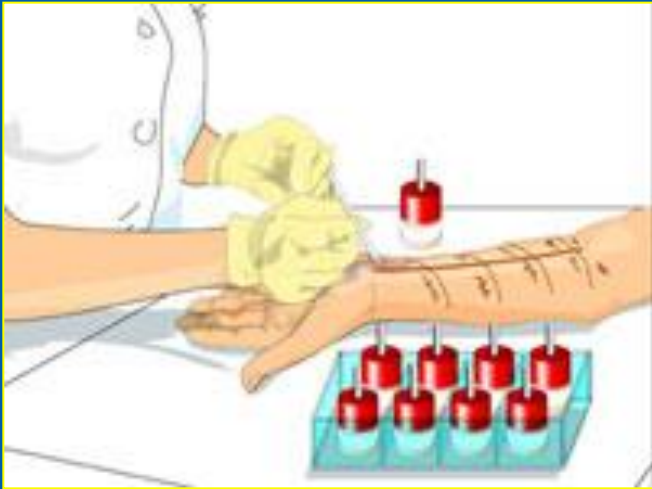
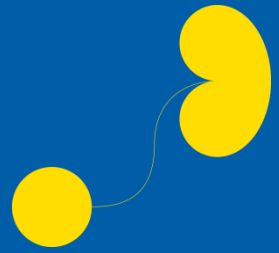




- Skin testing with the culprit agent produce delayed reaction
- Cross reactivity between different contrast media may occur
- Lymphocyte-rich dermal perivascular infiltrate with eosinophils on skin biopsy

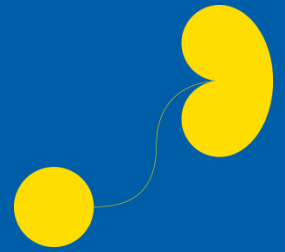


Skin testing



Prophylaxis

ESUR guideline, Eur Radiol 2003



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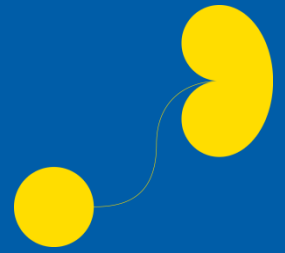
Tell patients who have had a previous contrast medium reaction or who are on interleukin-2 treatment that a late skin reaction is possible and that they should contact a doctor if they have a problem

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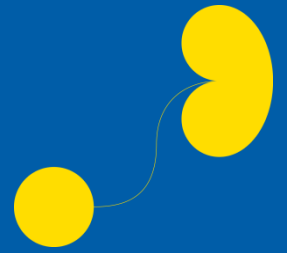


Treatment

- Antihistamine
- Corticosteroids
- Severe cases require referral to a dermatologist



Conclusion



- Delayed reactions are mainly mild, develop from 1 to 7 days after CM administration and resolve within 3 to 7 days in the majority of cases
- Majority of skin reactions are T-cell mediated reactions
- Management is symptomatic and similar to the management of other drug-induced skin reactions

