Confidence in renal safety

Clear Direction. From Diagnosis to Care.

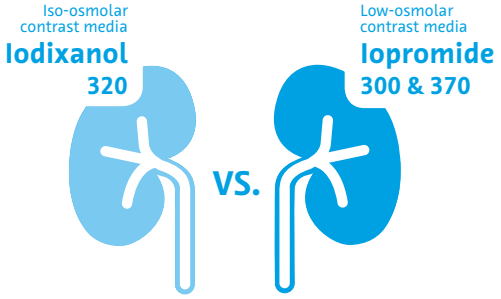
Ultravist®
Iopromide

Confidence in renal safety with Ultravist®

Besides image quality, safety and tolerability are key factors for patients and radiologist alike. Hence, comprehensive safety data is crucial.

- Ultravist® has a well proven general and renal safety profile including data from Asian populations.[1,2]
- The different concentrations available do not differ in their safety profile.[2]
- For renal safety, comparative studies and meta-analyses showed no significant difference for high-risk patients between low-osmolar Ultravist and iso-osmolar Iodixanol.[1,3-8]

Comprehensive scientific and clinical evidence shows...



...no significant difference in renal safety

INDIVIDUAL COMPARISION IOPROMIDE VS IODIXANOL*

Chen et al. (2012)	Iodixanol 320 (N=284) Iopromide 370 (N=278)	***NON-INFERIOR*** (p<0.001)
Bolognese et al. (2012)	Iodixanol 320 (N=236) Iopromide 370 (N=239)	***NON-INFERIOR*** (p<0.0002)
Shin et al. (2011)	Iodixanol 320 (N=215) Iopromide 300 (N=205)	***NO SIGNIFICANT DIFFERENCE*** (p=0.394)
Juergens et al. (2009)	Iodixanol 320 (N=91) Iopromide 370 (N=100)	***NO SIGNIFICANT DIFFERENCE*** (p=0.56)

META-ANALYSES LOCM VS IODIXANOL

Han et al. (2018)	Diabetic patients, 12 trials Iodixanol 320 (N=575) LOCM (N=525)	***NO SIGNIFICANT DIFFERENCE*** Subgroup analysis: Significant difference between Iohexol vs Iodixanol
From et al. (2010)	36 trials Iodixanol 320 (N=3,672) LOCM (N=3,494)	***NO SIGNIFICANT DIFFERENCE*** Subgroup analysis: Significant difference between Iohexol vs Iodixanol
Heinrich et al. (2009)	25 trials Iodixanol (N=1,701) LOCM (N=1,569)	***NO SIGNIFICANT DIFFERENCE*** Subgroup analysis: Significant difference between Iohexol vs Iodixanol

Fig 1: Overview of scientific evidence Iodixanol vs. Iopromide

Recent scientific research with Ultravist® leads to a better understanding of renal safety and is highly relevant for radiologists, regardless of the contrast medium used.

AMACING new insights into renal safety

The recent AMACING trial, conducted with Ultravist®, was the first randomized trial prospectively comparing prophylactic i.v. hydration against non-hydration in renal impaired patients.[9] The trial showed that:

- Assuming optimal contrast administration, withholding i.v. hydration for patients with an eGFR 30-59ml/min/1.73m² (CKD 3) is safe.
- The incidence of PC-AKI** was very low in both, the prophylaxis and no-prophylaxis study arm (2.6% - 2.7%).
- I.v. hydration was not without risk by itself as 5.5% patients had complications associated with the prophylactic treatment.

AMACING trial demonstrated low PC-AKI rate in both study arms[9,10]

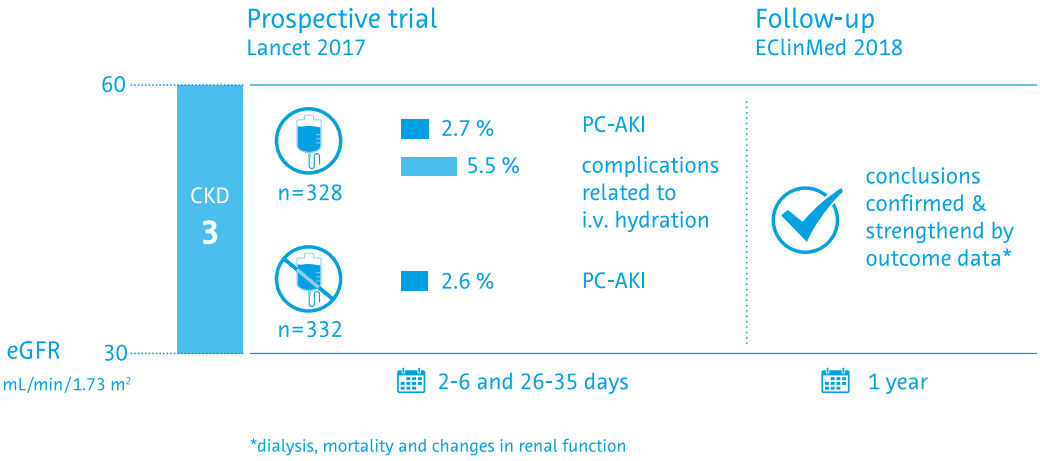


Fig 2: Renal results of the AMACING trial and one year follow-up

The trial concluded that CKD 3 patients do not benefit from prophylactic i.v. hydration and should no longer considered high-risk. These conclusions were confirmed in a one year follow-up.[10]

** Formerly termed contrast induced nephropathy (CIN)

Significantly less high-risk patients

- On a global scale, CKD 3 represents by far the largest group of patients with renal impairment.[11]
- The recommendation to omit i.v. hydration for these patients saves time and costs.[9]
- Based on the AMACING trial only a small portion of patients remain high risk, namely CKD 4 and 5.[9]

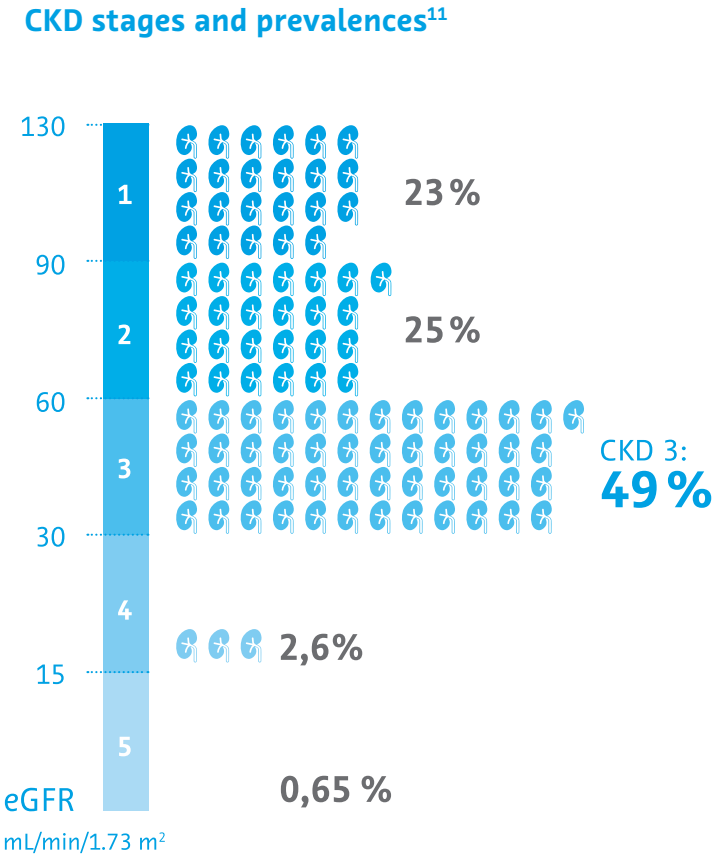


Fig 3: Global prevalences and their percentage distribution of the chronic kidney disease stages

The AMACING trial, conducted with Ultravist® and published in The Lancet, provided better understanding of renal safety and high-risk patients.

AMACING – the most comprehensive data set on renal safety

For CKD 3 patients, a one year follow-up showed still no difference regarding renal safety between hydrated and non-hydrated patients.[10]

AMACING conclusions lead to a better understanding of renal safety[9,10,13]

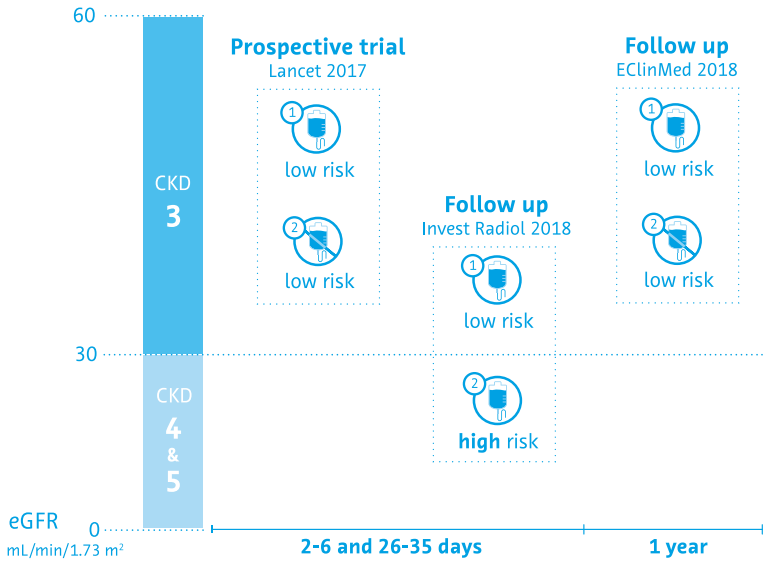


Fig 4: Overview of the AMACING trial and follow-up analyses

Looking at high-risk patients with an eGFR below 30 ml/min/1.73 m² (CKD 4 and 5):

- The trial confirmed their significantly higher risk of PC-AKI.[9]
- Patients with CKD 4 and 5 need specific care and benefits and risks of prophylaxis must be carefully weighed for each individual patient.[12]

Over 90% fewer renal high-risk patients with the support of Ultravist®

- The AMACING trial, conducted with Ultravist®, supported the re-definition of renal high-risk patients in the ESUR 10 guidelines.[14]
- This is in line with the ACR guidelines which also consider only patients with an eGFR below 30 ml/min/1.73 m² (CKD 4 and 5) as high risk.

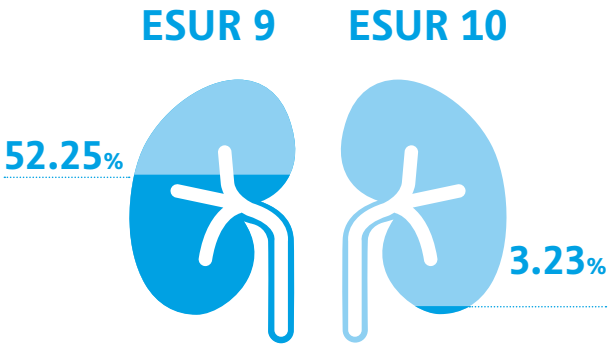


Fig 5: Comparison of summed prevalences for ESUR 9 (CKD 3-5) and ESUR 10 (CKD4-5) definitions of high-risk patients

U can have confidence in Ultravist®

- Ultravist® with its well-documented general and renal safety profile was the natural choice for the AMACING trial.
- Its outstanding set of scientific evidence makes it one of the most researched contrast media world-wide.

U

- **30+ years on the market**
- **250+ million scans**
- **150k+ patients in studies**
- **100+ countries**

Over 250 million scans to date and 16 million examinations per year, as well as a well proven safety profile backed by 150.000 patients in observational studies[15, 16], allow you to have confidence in Ultravist®.

The AMACING Trial, conducted with Ultravist®, and published in The Lancet provides important insights into renal safety.

Literature

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* CIN definitions of comparison studies

Study	CIN Definition
Chen et al. (2012)	SCr of ≥ 50 % from baseline at 72 h p.a.
Bolognese et al. (2012)	SCr ≥ 25 % from baseline till 72 h p.a.
Shin et al. (2011)	≥ 25 % or 0.5 mg/dl from baseline at 24 h or 48 h
Juergens et al. (2009)	≥ 25 % or 0.5 mg/dl from baseline at 48 h

SCr: Serum Creatinine; **p.a.:** post administration

ABBREVIATED PRESCRIBING INFORMATION

Brand name of product Ultravist **Approved name of the active ingredient** Iopromide **Indication** Ultravist 300: Contrast enhancement in CT, DSA, intravenous urography, phlebography of the extremities, venography, arteriography, visualization of body cavities (e.g. arthrography, hysterosalpingography, fistulography) **with the exception of myelography, ventriculography, cisternography.** Ultravist 370: Contrast enhancement in CT, DSA, intravenous urography, arteriography and especially angiocardiography, visualization of body cavities (e.g. arthrography, fistulography) **with the exception of myelography, ventriculography, cisternography. Dosage and method of administration** For dosage information for intravascular use, intravenous DSA, CT, intravenous urography, filming times, please refer to full prescribing information. **Contraindications** There are no absolute contraindications to the use of Ultravist. **Special warnings and special precautions for use Special Warnings:** Hypersensitivity reactions, thyroid dysfunction, CNS disorders, hydration, anxiety and pretesting; **Special Precautions: Intravascular use**: Renal impairment, cardiovascular disease, pheochromocytoma, myasthenia gravis, thromboembolic events; **Intrathecal use**; Care is needed in patients with a seizure history. **Undesirable effects** Common adverse drug reactions reported include: **Nervous system disorders:**Dizziness, headache, dysgeusia; **Eye disorders:**Blurred/disturbed vision; **Cardiac disorders:**Chest pain/discomfort; **Vascular disorders**: Hypertension, vasodilatation; **Gastrointestinaldisorders:** Vomiting,nausea; **General disorders and administration site conditions:** Pain,Injection site reactions, feeling hot. **Intrathecal use:** in addition to the undesirable effects listed above, following undesirable effects may occur: Psychosis, neuralgia, paraplegia, aseptic meningitis, back pain, pain in extremities, micturition disorder, EEG abnormal. For more details, please refer to full prescribing information. **For further prescribing information, please contact** Bayer Co. (M) Sdn Bhd, B-19-1 & B-19-2, The Ascent Paradigm, No. 1, Jalan SS 7/26A, Kelana Jaya, 47301 Petaling Jaya, Selangor. Subject to medical prescription. **Date of text revision** 22.05.2017

Clear Direction. From Diagnosis to Care.

For Healthcare professional only

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