

A CASE SERIES ON IOHEXOL INDUCED FLU LIKE SYMPTOMS IN A TERTIARY CARE HOSPITAL – BHIMAVARAM

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ABSTRACT

Iohexol is a medicinal product used for the diagnosis of any abnormalities associated with blood vessels and also used in CT-SCAN. It acts by the mechanism of opacification of blood vessels. Major ADR's includes Hypersensitivity Reactions such as Chills, hyperthermia, rash, dyspnoea etc., but they are very uncommon and sometimes negligible (<1%) In a Tertiary-care hospital Bhimavaram, it is used for CT-SCAN which the patients have experienced Chills & Hyperthermia. In this case series, we have discussed the incidence, management and analysis of chills an ADR of Iohexol with the help of pharmacist intervention.

KEYWORDS: Iohexol, CT-SCAN, Chills, Pharmacist intervention, Hyperthermia, Opacification.

1. INTRODUCTION

Iohexol (omnipaque) a medicinal product is used for examining the Hemodynamic, clinical-chemical & coagulation parameters. It is mainly used for Diagnostic purpose only. Generally it is given through intravenous intrathecal and orally. Depending upon the Age, weight and condition of the patient – Dose and Route of Iohexol is preferred.^[1]

2. It is preferred in case of several Diagnostic parameters.

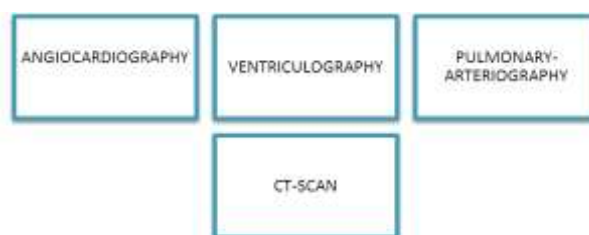


Table 1: Diagnostic Parameters^[2]

❖ MECHANISM OF ACTION

I.V use: It provides opacification of Blood vessels and permits Radiographic visualization until sufficient Haemodilution occurs or sufficient contrast medium has left the site of Injection. Iohexol yields solutions of lower osmolality than the conventional Ionic contrast media.^[1] Generally I.V route was preferred because it.

1. Causes less pain & sensation of heat than Conventional Ionic media with similar Iodine content.
2. Also risk of cardiac & vascular disturbances can be reduced.
3. Clotting of Blood will not be observed.

Period of maximal opacification of the renal vessels may begin as early as 30secs after I.V injection.^[1]

❖ PHARMACOKINETICS

- 87 – 99% of I.V Injected Iohexol is excreted unchanged through the kidneys within 24hrs in patients with normal renal function.
- Elimination Half life was 2 hrs.
- ORAL ROUTE is preferred for Good visualization of G.I tract.

❖ DOSAGE AND ADMINISTRATION

Performed by qualified personal familiar with the procedure & appropriate technique. Adequate hydration should be assured before and after administration. Generally administered into a Peripheral vein or superior venacava usually by Mechanical Injection or Rapid manual injection. Lowest dose of Iohexol is necessary to obtain adequate visualization.

Table 2: Doses and Their Administration.

INDICATION	VOLUME	CONCENTRATION	ROUTE
CT- Scan (CEREBRAL)	1.5ml/kg	300mg/ml	I.V
ABDOMINAL	60ml	350mg/ml	I.V

❖ CAUTIONS

- Patients should be well hydrated before and after procedure (Especially in patients with Multiple-myeloma, DM and Renal-dysfunction).
- CONTRAINDICATED in Renal impairment combined Renal/Hepatic disease.
- Allergies (Bronchial Asthma, Hay fever, Food Allergies.).

❖ RISK-BENEFIT SHOULD BE CONSIDERED WHEN THE FOLLOWING MEDICAL PROBLEMS EXIST

Hypersensitivity to Iohexol

- Positive History of allergy, Asthma (Flu like symptoms) In this condition Premedication with Corticosteroids or Histamines H1 and H2 antagonist might be considered.

❖ PRECAUTIONS RELATED TO ADMINISTRATION TECHNIQUE

Cerebral Angiography:

1. Use with Caution in Patients with extreme sensitivity.
2. Atherosclerosis.
3. Severe HTN.

❖ ADVERSE DRUG REACTIONS

Hypersensitivity Reactions such as Dyspnoea, Rash, Chills etc.,



- According to MedDRA system organ classification Chills, pyrexia & Feeling hot will come under General disorders and its frequency is Very Rare or Rare.

❖ PHARMACEUTICAL PRECAUTIONS

Should be stored at 2-30 degrees Celsius, protected from light and secondary X- Rays. Product in Glass vials and bottles may be stored at 37 degrees Celsius for up to 3 months prior to Use.

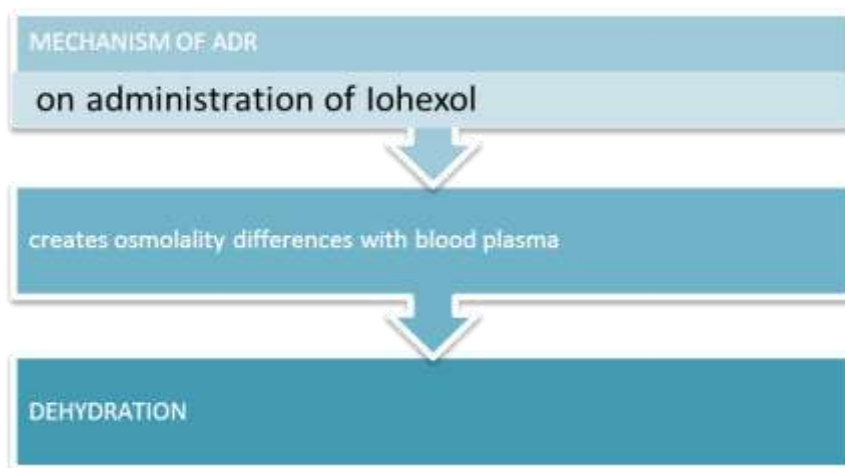
CASE STUDY

This is a descriptive clinical laboratory study. The data were retrospectively collected from the patient's records. A series of 30 patient's case records were observed in the year 2015 for a period of 3 months. Among those 30 records 12(40%) have shown the evidence of Chills,

8(26.7%) were Hyperthermic, 6(20%) patients experienced both chills and hyperthermia and 4(13.3%) are left without any adverse event after the CT-SCAN procedure and the chills lasted about 20-30 minutes in the patients within one hour of the completion of CT-SCAN.

❖ MECHANISM OF ADR

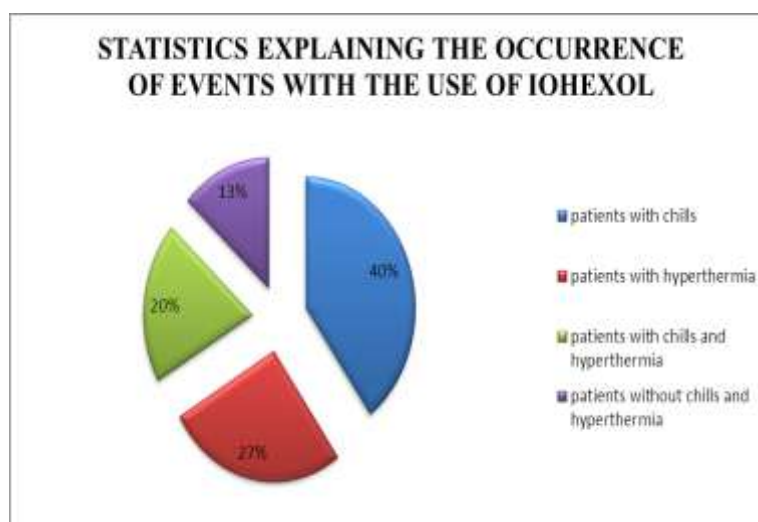
On administration of Iohexol - I.V for carrying out the CT-Scan.



Due to this patient Experiences Chills and hyperthermia as a protective mechanism by the body.

❖ DOSE GIVEN IN THIS STUDY

AGE GROUP	DOSE	ROUTE
Children	20 – 40ml	I.V
Adults	120ml	I.V



GRAPH 1.0.

❖ MANAGEMENT

As a Pharmacist intervention, rehydration therapy with water was given in 3-4 patients initially before and after the CT-SCAN (which involves the use of Iohexol) to counteract the dehydration & its effects. Thereby patients are observed that they didn't experience any Chills or Hyperthermia. So even for the forward patients, they have implemented the same rehydration therapy.^[1]

❖ ANALYSIS & REPORT

It was analysed that the patient's who experienced the event was due to dehydration. Chills and hyperthermia were due to dehydration caused by Iohexol.

❖ REFERENCES

1. Omnipaque monogram, G.E Health care, Auckland, 2009.
2. www.Medscape.com/drug/omnipaque-iohexol.