SAFETY ALERT

DRAP SAFTEY ALERT NO. 23

Risk of Hypothyroidism in Babies and Young Children with Iodinated Contrast Media (ICM) Injections

Date: 19th of November, 2022.

Target Audience:

- Manufacturers and importers of Iodinated contrast media (ICM) injections such as iohexol, iopromide and iodixanol etc;
- Healthcare Professionals; and
- Patients, consumers or caregivers.

Background:

On 30th March, 2022, the United States Food and Drug Administration (US-FDA) through a Drug Safety Communication informed that they have approved a new warning to the prescribing information for the entire class of iodinated contrast media (ICM) injections and monitoring recommendations for children 3 years or younger. The warning describes the risk of an underactive thyroid or a temporary decrease in thyroid hormone levels. These risks and recommendations pertain to ICM given as an injection through an artery or vein. Newborns, particularly those born premature, and children in their first 3 years with underlying conditions such as heart issues may be at higher risk for problems with the thyroid. It was informed that the agency first alerted the public about cases of underactive thyroid in infants receiving ICM back in 2015 and now six new research studies evaluating this risk have been published. The FDA has concluded based on their review of the published studies that there is compelling evidence of a significant risk for an underactive thyroid or a temporary decrease in thyroid hormone levels in newborns and children through 3 years after exposure to ICM. Back in December 2017, the Medicines and Medical Devices Safety Authority (Medsafe) of New Zealand also requested that

data sheets for iodine-containing contrast agents (ICAs) to be updated with information on the risk of hypothyroidism, particularly in neonates and should include advice on thyroid monitoring.

Action in Pakistan:

Accordingly, the case of the risk of hypothyroidism in babies and young children with iodinated contrast media (ICM) injections was discussed in the 1st meeting of the Pharmacovigilance Risk Assessment Expert Committee (PRAEC) of the National Pharmacovigilance Centre (NPC), Division of Pharmacy Services, Drug Regulatory Authority of Pakistan (DRAP). The PRAEC after detailed deliberation and discussion decided as per Rule 10 (1) (h) (iv) of Pharmacovigilance Rules, 2022 (reliance mechanism) to update the warning and precaution section of the prescribing information of the entire class of iodinated contrast media (ICM) that are used for radiological purposes to include risks of an underactive thyroid or a temporary decrease in thyroid hormone levels in children 3 years or younger i.e newborns, particularly those born premature, and children in their first 3 years with underlying conditions such as heart issues etc.

Therapeutic Good(s) Affected:-

Name: **Iodinated contrast media (ICM) injections such as iohexol, iopromide and iodixanol etc.** ICM are drugs containing iodine that are given to patients to enhance the ability to see blood vessels, organs, and tissues on medical images such as X-rays or computed tomography (CT) scans, thus helping healthcare professionals to diagnose potential problems. Examples include iohexol (Omnipaque), iopromide (Ultravist 300, 370) and iodixanol (Visipaque 270, 320) etc. Common side effects associated with ICM include flushing in the face, nausea or vomiting, mild itchiness, and skin rash.

Advice for Patients.

Parents and caregivers of a child below 3 years and receiving ICM injections should talk with healthcare professionals for additional information. If the child is a newborn, has very low birth weight, was premature, has a heart condition, or was admitted to a neonatal or pediatric intensive care unit, they may be at higher risk of developing underactive thyroid or a temporary decrease in thyroid hormone levels. Babies & young children typically do not show any visible signs of thyroid problems & may need to be monitored by their healthcare professionals after receiving ICM.

Advice for Healthcare Professionals.

Healthcare professionals are advised to perform appropriate monitoring of patients from birth through 3 years for the possibility of hypothyroidism or a temporary decrease in thyroid hormone levels following exposure to iodinated contrast media (ICM) injections. Healthcare professionals are also advised to consider evaluating thyroid function within 3 weeks, especially in term and preterm neonates and children with some underlying conditions. If thyroid dysfunction is detected, it should be properly treated and monitored as clinically needed to avoid future cognitive and other developmental disabilities. Increased-risk pediatric patients include those who are newborns or have very low birth weight, prematurity, or the presence of cardiac or other conditions such as those requiring care in neonatal or pediatric intensive care units. Patients with cardiac conditions may be at the greatest risk since they often require high doses of contrast during invasive cardiac procedures. These increased-risk pediatric patients require close monitoring.

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Guidelines for reporting of Adverse Drug Reactions (ADRs):

Both healthcare professionals and patients are requested to report any suspected adverse drug reaction (ADRs) with iodinated contrast media (ICM) injections to the National Pharmacovigilance Centre, Drug Regulatory Authority of Pakistan through the Med Vigilance E-Reporting system available on the DRAP website.

Similarly, ADRs can also be reported through MedSafety App which is available for download from App store (for iOS devices) and Google Play (for Android devices).

References:

1. Minutes of 1st meeting of Pharmacovigilance Risk Assessment Expert Committee.
2. Drug Safety Communication of the United States Food and Drug Administration (US-FDA) regarding Iodinated contrast media (ICM).

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