Purpose. The aim of the study is to evaluate whether national radiation protection procedures of breast feeding patient undergoing diagnostic nuclear medicine procedures including F-18 FDG PET and Tc99m – MIBI scintigraphy are in line with the international radiation protection standards and policy in this area.

Methods. National legislation has been checked and compared with international recommendation. Radioactivity of mother milk after undergoing diagnostic nuclear medicine procedures has been estimated, based on the fraction of administrated activity present in mother’s milk. Effective dose to child has been calculated using factors given in national standard procedures which are as follow: for F-18 FDG PET examination 0.095 mSv/MBq, while for Tc99m MIBI scintigraphy 0.053 mSv/MBq. Conservative approach has been applied means that for the calculation purposes the radioactive dacy has been neglected, also the fraction of activity excreted in urine before F-18 FDG PET examination, time of the procedure was not taken into account and direct amount of administrated activity was used for evaluation of dose to child.

Results. Limits for effective dose for breastfed child is 1 mSv. International recommendation for given nuclear procedures stated that there’s no need for suspending breastfeeding. National legislation state that there is no need for suspending breast feeding but it is mandatory to not to give the baby first part of milk just after above mentioned the NM procedures. For TC-99m MIBI examination and administrated activity 150 MBq effective dose is 0.008 μSv, 400 MBq-0.021 μSv, 700 MBq-0.037 μSv. For F-18 FDG PET for administrated activity 200 MBq-0.19 μSv, 350 MBq-0.33 μSv, 700 MBq-0.67 μSv and this is around 1500 (one and half thousand) times less than a set limit 1 mSv.

Conclusions. Discrepancy between the recommendations, particularly to waste first part of the food after NM procedure, statement in national recommendation, seems to have no scientific basis and do not contribute to better radiation protection of breastfed children. In the other hand this too conservative approach might contribute to unnecessary fear of the radiation among public and give wrong impression about potential risk of diagnostic NM procedures, like F-18 FDG PET or TC-99m MIBI scintigraphy.

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[OA223] Establishing a unified system for logging radiation incidents in an international healthcare services organisation
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Purpose. Working in a dynamic, complex and high workload environment can lead to unintended radiation exposures. Unintended does not mean unable to prevent. Establishing a unified incident management system in an international healthcare services organisation facilitates better identification of safety critical steps. A bigger ‘pool of events’ can identify trends in incident types and maximize improvement opportunities across the whole system.

Methods. There is never a single cause for an incident to happen. The incident management system of the organization, AIMS, is a tool developed to log and learn from any adverse events that concern patients, staff or third-parties under the organization’s care. AIMS is not designed to be an administrative tool to find and penalise individuals, but to support collective learning within the organization network to prevent failures and avoid harm.

AIMS is a digital platform accessible to all personnel to log incidents and good catches; incidents which were prevented, due to timely and competent personnel action. It is purposefully a four click process to promote easy and fast logging of events, including process stage, incident type and severity. Once an event is logged, approval of the information provided is required before investigation and analysis of the root causes that lead to the event are initiated.

Results. AIMS allows the process stage to be logged – that is, the stage in the journey at which the event occurred. In-depth investigation identifies failures in the often-complex healthcare environment, allows detection of risks and developing ways to reduce or eliminate the risk of reoccurrence. Good catches and incidents of moderate and above severity are shared with the group regularly as a learning process. Root cause analysis of events allows scrutiny of the preceding process stages, in order to identify contributory factors leading up to the event and definition of actions.

Conclusions. To Err is Human. We cannot change the human condition, but we can change the condition under which humans’ work. Incident management is a valuable tool to promote a safety culture and awareness through the involvement of and feedback to staff and managers.

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[OA224] Occupational radiation doses during interventional radiology residents training
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This study aimed to evaluate and quantify differences in radiation doses to staff due to the participation of residents during interventional radiology procedures. The study presents dosimetric results for medical staff (experienced radiologist and residents) based on sixty six hepatic chemoembolization procedures conducted in five hemodynamic departments in Recife, Brazil. During each procedure, patient’s data (mass and height) and dosimetric parameters such as the air kerma-area product (KAP) and fluorescent time were registered. Occupational dosimetry was performed using thermoluminescent dosimeters and direct ion dosemeters (DIS) distributed over various regions of the physician’s body. The results showed that the mean accumulated KAP for procedure with residents was 16% greater than without (247.5 Gy·cm² vs. 208.6 Gy·cm²). The Mean personal dose equivalent Hp(3) in the left eye and the effective dose for residents were 34% (491.3 μSv vs. 325.2 μSv) and 28% (23.4 μSv vs. 17.2 μSv) respectively higher than those received by the experienced radiologist. The results of the occupational dosimetry using DIS dosemeters showed that these devices can be used in a complementary way to estimate the occupational eye lens doses in interventional procedures. High variability of radiation doses to medical staff was observed among the five medical institutions, mainly because of the performance of X-ray equipments, complexity of the procedures, physical characteristics of the patients, and the resident’s lack of training in radiation protection.

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