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Project title

New and Reinforcement Measures to Prevent Mislabeling and Mixing of Prenatal Specimens During Collection and Transportation

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Introduction

Mislabeling of specimen is an adverse medical incident which can lead to severe potential medico-legal consequences. Correct labeling of prenatal specimens (including amniotic fluid, chorionic villi and fetal blood) is one of the top clinical risk management in our Maternal Fetal Medicine (MFM) Centre which has to manage more than 1000 in-patient attendance in the prenatal diagnostic and counseling clinic session and send out more than 300 prenatal samples for invasive diagnostic testing per year. In response to the hospital's alert, a quality improvement initiative was implemented.

Objectives

To prevent mislabeling and mixing of prenatal specimens during collection and transportation of prenatal specimens

Methodology

Environmental scanning was carried out to identify any potential risk factors of mislabeling and mixing up of prenatal samples during preparation, collection, handling, transportation to another hospital and recording. Workflow was redesigned, and new guidelines were formulated by the nursing in charge of the team and briefed to members in the team meeting to solicit their opinions. It was then refined with consensus on standardizing all the steps and distributed to team members, ward manager and MFM team head/ COS for endorsement before implementation in September 2015. New measures included: - An information sample folder containing photos of infrequently used specimen containers and forms was prepared. - Guidelines and the information sample folder were filed in the MFM protocol and kept in the procedure room. - An audit on the compliance on the new guidelines was carried out. - Attending doctors in counterchecking patient's name and identity card number at bedside immediately after sample collection. - The sample box was locked and placed in a secure place of the nursing station before transportation to laboratory. - A new travel bag with a digital lock was used by a porter (who did not know the security code) during transportation of prenatal specimens to the prenatal laboratory of another hospital. - Colleagues of the prenatal laboratory of another hospital who involved in receiving the sample box were informed of using the new locked bag and the security code of the digital lock. Reinforcement measures included: - A new set of instrument must be used if the procedure was repeated. - Single use of equipment to avoid cross-contamination of specimens. - Specimen container must be checked to ensure no previous specimen before transferring the prenatal sample into it. - Site and source of specimen must be identified correctly for multiple pregnancy. - Each specimen must be properly and correctly labeled before attending another patient. - Under no circumstances should the specimens be handled by an unauthorized person. - The porter must sign the record book in ward before taking the specimen box to the laboratory. - The signed return from the laboratory must be checked to confirm receipt of specimens by laboratory staff.

Result

There were no incidents on mislabeling or mixing of prenatal specimens in our MFM centre in the past five years. Complete compliance to the guidelines on specimen collection was shown on clinical auditing. The verification procedures were welcome by the involved doctors and nurses. The porter and colleagues in the prenatal laboratory of another hospital were very satisfied with the use of the travel bag. Implementation of the improvement measures served as a continuous process of risk management and promoted positive safety culture in the department.