Queen Elizabeth Hospital announces investigation findings on sentinel event

The following is issued on behalf of the Hospital Authority:

The spokesperson for Queen Elizabeth Hospital (QEH) today (August 31) announced the findings and recommendations of the Investigation Report regarding a sentinel event of a case of barium enema examination:

Arrangements were made for a 79-year-old female patient with chronic illness to undergo a barium enema examination on July 4, at QEH. A radiographer tried to insert the enema tip into the patient's anus but had improperly inserted it into her vagina. The radiographer did not check the inserting position and received a verbal confirmation from the patient that the enema tip was within her rectum. The radiographer then inflated the retention cuff (or balloon) of the enema to avoid leakage of barium during the examination. After instillation of barium to the catheter, a radiologist found in X-ray images the presence of barium inside the patient's pelvis, suspecting that the enema tip was improperly inserted into the vagina. The radiologist immediately stopped the examination and asked a radiographer to check the position of the enema tip. The radiographer removed the enema tip after discovering that it was inserted into the vagina. The radiologist immediately examined the patient and found blood stained barium contrast in the patient's perineum.

Medical staff from Department of Diagnostic Radiology and Imaging immediately escorted the patient to the Accident and Emergency Department. An urgent computed tomography scan was arranged. The result showed that barium existed in her vagina, uterine cavity and bilateral fallopian tubes, and there were also possible signs of vaginal tear. After a joint assessment by a surgeon, gynaecologist and intensivist, an emergency operation was conducted to suture laceration of her vagina, for removal of residual barium and bilateral salpingectomy in order to avoid the risk of peritonitis. The patient was stable after the operation. She made a satisfactory recovery and was discharged on July 24.

Following the incident, the hospital reported the incident to the Hospital Authority (HA) Head Office through the Advance Incident Reporting System. The incident was classified as a sentinel event. QEH has set up a Root Cause Analysis (RCA) Panel to investigate the incident. After a thorough investigation, the Panel has made the following conclusions:

1. During the insertion of the enema tip, the radiographer did not see clearly the patient's perineum. A visual check was not performed after insertion either. The radiographer should identify the patient's anus

before and immediately after inserting the enema tip to prevent a similar incident from happening again.
2. In this incident, the inflated retention cuff (or balloon) of the enema tip caused injuries to the vagina and forced the barium into the uterine cavity and the fallopian tubes.
3. The incident was a rare one according to the medical literature.

The Panel has made the following recommendations to QEH and the HA to enhance patient safety:

1. Review and revise the workflow of the barium enema examination to ensure that:

- After the insertion of the enema tip, another radiographer or a radiologist should reconfirm its position.
- The retention cuff is inflated only after confirmation of the correct position of the enema tip by a doctor. The inflation of the retention cuff should be assessed based on the benefits, risks and needs of individual patients.

2. Share the incident with all staff members of Department of Diagnostic Radiology and Imaging and the lessons learned in formal meetings.

QEH has explained the investigation results to the patient's family and delivered an apology again. The hospital will continue to maintain close communication with them and provide the necessary assistance.

The hospital has accepted the Panel's findings and recommendations, and submitted the investigation report to the HA Head Office. QEH will follow up the case according to prevailing human resources policies. The Department of Diagnostic Radiology and Imaging has formulated and implemented the new guidelines immediately after the incident. After insertion of the enema tip, the radiographer should confirm the correct position of the enema tip with the patient, while another radiographer or radiologist will make a second confirmation before proceeding with the examination.

The hospital expressed its gratitude to the Chairman and members of the RCA Panel. Membership of the Panel is as follows:

Chairman
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Dr Danny Cho
Chief of Service, Department of Diagnostic and Interventional Radiology, Kwong Wah Hospital, Tung Wah Group of Hospitals Wong Tai Sin Hospital and Our Lady of Maryknoll Hospital

Members
Dr Lo Kit-lin
Chief of Service, Department of Radiology and Organ Imaging, United Christian Hospital

Ms Anna Mak
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