A Comparison of Electromagnetic Enteral Device Images to Abdominal Radiograph Images for Accuracy in Bedside Placement of Small Bore Feeding Tubes

Abstract Authors:

Primary
Vera Bryant
DNP, ARNP, ACNP-BC, CCRN, CNRN, SCRN
Neuro Critical Care Nurse Practitioner
Baptist Hospital of Miami
verab@baptisthealth.net
305-812-6180

Secondary
Jean Phang
RN, BSN, CNSN
Quality Assurance Nurse
Baptist Hospital of Miami

Kevin Abrams
MD
Chief of Radiology
Baptist Hospital of Miami

Purpose / Objective:

The primary objective was to compare radiographic reports of feeding tube placement to images generated by an electromagnetic feeding tube placement device.

Background / Significance:

Clinicians are unsure if radiography is needed to confirm correct positioning of feeding tubes inserted with an electromagnetic system.

Methodology / Data Analysis:

The medical records of 200 consecutive patients who had feeding tubes inserted with assistance from an electromagnetic feeding tube placement device were reviewed retrospectively. Radiographic reports of tube site were compared with images generated by the device.

Findings / Implications:

Radiographic evidence of tube sites was available in 188 cases: 184 were located in portions of the gastrointestinal tract. Images generated by the electromagnetic device were available in 176 cases. Approximately 48% (90/188) of the tubes were situated in the optimal site (distal duodenum or jejunum); of these, the electromagnetically generated images indicated that about 58% (52/90) ended in the left lower quadrant. Tubes demonstrated by x-ray to be in other sites were also occasionally shown to end in the left lower quadrant. Nurses using the device did not recognize 4 of the 188 tubes (2.1%) that were inadvertently placed in the lung. No consistent pattern of quadrant distribution was found for tubes positioned in the stomach or proximal duodenum.

Discussion:

Images generated by the electromagnetic placement device provided inconsistent results regarding tube location. A small percentage of malpositioned tubes were not detected by nurses using the electromagnetic device. Findings do not support eliminating x-rays to confirm correct tube placement following use of an electromagnetic tube placement device.

Conflict of Interest:

I have no conflicts financial or otherwise, related to this abstract/presentation.
I confirm that the above disclosure is accurate and complete: Vera Bryant