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IMAGE-GUIDED CATHETER DRAINAGE OF THORACIC,
ABDOMINAL, AND PELVIC FLUID COLLECTION**

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1) EFFICACY, FEASIBILITY, AND SAFETY OF PERCUTANEOUS IMAGE-GUIDED CATHETER DRAINAGE OF THORACIC, ABDOMINAL, AND PELVIC FLUID COLLECTION

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ABSTRACT

INTRODUCITON:

Percutaneous continuous catheter drainage is an interventional procedure and is considered to be the standard curative therapy to the thoracic, abdominal and pelvic fluid collection/abscesses. Variety of aetiologies include pleural effusion , infected fluid-empyema, haemothorax, ascites and intrabdrominal/pelvic fluid collections/abscesses. Image-guided percutaneous drainage of fluid collections utilising ultrasound or computerised tomography is an effective minimally invasive method.

AIMS AND OBJECTIVES:

The purpose of this prospective analysis is to evaluate the efficacy, feasibility and safety of image-guided percutaneous (pigtail) catheter drainage of thoracic, abdominal, and pelvic fluid collections and relevant clinical outcome.

MATERIALS AND METHODS:

83 patients diagnosed with thoracic, abdominal, and pelvic collections were referred by a clinician for percutaneous pigtail catheter drainage under the guidance of CT and/or ultrasound imaging modalities in our hospital. The study was completed over a period of 2 years.

RESULTS:

In our study, patients were categorized into three groups, based on the treatment modality received by them : group A (38.55%), group B (57.83% and group C (3.61%). Group A: patients

subjected to intermittent needle aspiration and pigtail catheterization in the same sitting .
Group B: patients subjected to intermittent needle aspiration followed by pigtail catheterization after an interval gap .Group C: patients subjected to intermittent needle aspiration followed by pigtail catheterization and open surgical drainage. Residual collection of > 75% reduction in collection from original volume (in 68.67%) , < 75% reduction in collection from original volume (4.82%) and No residual collection (26.51%).

The final outcome of the study was determined in terms of success and failures. The two groups A and B were compared with respect to the residual collection. It was found that the p value was not significant ($p < 0.05$). Thereby here was no significant difference in Categorized Group Distribution among outcome.

The size of the catheters used in our study is based on operator and institutional preference. However, 10F catheter is more suitable for chest collections, as pneumothorax was a complication reported when 12F catheters were used to drain chest collections in the study. There was a significant difference in Size of Catheter Inserted Distribution among abdominal and pelvic collections.

Complications were classified as major and minor complications. Major complications (3.6%) included Reaccumulation of fluid in the cavity and pneumothorax. overall minor complications (68.6%). The most common minor complication detected in this study was pain (69%). Catheter-related complications (1.2 %) included blockage of the catheter.

CONCLUSION:

We found that pigtail catheters were very effective in draining different types of fluid collections, most commonly the purulent and serous fluid. Image-guidance helps in determining the safest access pathway for the catheter placement.

In all our cases, the amount of time saved in doing a procedure under the guidance of imaging modality and the rapidity of radiological/clinical improvement after pigtail insertion makes it very reassuring.

KEYWORDS:

Fluid collections; Efficacy; Feasibility; Safety; percutaneous catheter drainage; pigtail catheter; Intermittent needle aspiration.