

**“ROLE OF MULTIDETECTOR COMPUTED
TOMOGRAPHY ENTEROGRAPHY IN THE
EVALUATION OF SMALL BOWEL DISORDERS”**

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DHARMASTHALA
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**Dissertation Submitted to the
Shri Dharmasthala Manjunatheshwara University, Dharwad,
Karnataka.**

**In partial fulfillment
of the requirements for the award of degree of**

DOCTOR OF MEDICINE

In

RADIODIAGNOSIS

Under the guidance of

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2019-2022**

ABSTRACT

Title

ROLE OF MULTIDETECTOR COMPUTED TOMOGRAPHY ENTEROGRAPHY IN THE EVALUATION OF SMALL BOWEL DISORDERS

Background

The mesenteric small intestine remains the only part of gastrointestinal tract segment for which diagnostic study is not principally dependant on endoscopic viewing. In such a case, radiologists play a primary role in diagnosis of small bowel pathologies. Increased speed and resolution of multi–detector row computed tomography (CT) have made it a first-line modality for the examination of small bowel diseases.

Multi-detector Computed Tomography Enterography (MDCT Enterography) however differs from routine abdomino-pelvic CT in that it makes use of thin sections and large volumes of enteric contrast material for better display of the small bowel lumen and wall, permits excellent assessment of hypervascular lesions and hyperenhancing segments.

Objectives

1. To study the radiological features of small intestinal diseases using Multidetector Computed Tomography (MDCT) Enterography.
2. To draw a systematic patterned approach to narrow down the differential diagnosis based on radiological findings using MDCT Enterography.

3. To evaluate the diagnostic accuracy of MDCT Enterography in the evaluation of small bowel disorders with clinical, histopathological and surgical correlation wherever necessary.

Materials and Methods

Cases of suspected small intestinal disease who will be referred to undergo Multi-detector Computed Tomography Enterography at the Department of Radio-Diagnosis in SDM Medical College and Hospital from the year December 2019 to May 2021. Forty patients were selected for the study. After the clinical examination of the patients with a written and informed consent, they were subjected to MDCT Enterography. Imaging was done on 128 slice MDCT scanner manufactured by Siemens (Somatom AS) with imaging parameters chosen so as to maximize spatial resolution.

Results

Out of the 40 patients in our study who were clinically suspected to have small intestinal disease, all the patients had bowel pathology. Patients were 17 (42.5 %) females and 23 (57.5 %) males with majority of them being more than 50 years old. The most common MDCT Enterography findings were distal bowel involvement (55%), mucosal layer involvement (45%), homogeneous wall enhancement (75%). Focal involvement was seen in the majority of the patients (52.5%) with the mild mural thickness in most of them (75%). Small bowel obstruction was the commonest finding (35%), followed by abdominal tuberculosis (25%). 60% of the patients required surgical management and 17% of them confirmed by histopathological evaluation. Therefore, patients with small bowel diseases were significantly older ($p < 0.05$), had

distal bowel and focal involvement ($p < 0.001$), mostly involving the mucosal layer ($p < 0.001$), with homogeneous enhancement pattern ($p < 0.001$) and mild mural thickness ($p = 0.07$).

Conclusion

MDCT Enterography is an efficient modality in detecting small bowel pathologies. Distal bowel and mucosal layer involvement, homogeneous wall enhancement, focal involvement with the mild mural thickening are the most common MDCT Enterography findings. Patients suspected to have small bowel diseases are significantly older, small bowel obstruction and abdominal tuberculosis being the most common diseases affecting the small bowel with most of them requiring surgical line of management.

Key words

MDCT Enterography, small bowel diseases, enteric contrast, mannitol