Aim and Objectives

Virtual (CT) Colonoscopy is the latest technological advance in CT scanning and allows excellent images of the colon without the risks and inconvenience of anesthesia.

The aim for performing CT colonography is to screen for polyps and other lesions in the large intestine.

In this technique volumetric data obtained by high resolution helical CT is analyzed using specialized computer software to generate virtual colonoscopic images.

Technique

The patient is transferred to the CT table, in left lateral decubitus position.
Initially 40 puffs (2litres) of air to be insufflated and adequacy of large bowel distension evaluated by a CT scout film. If this is inadequate, more air is administered until patient tolerance.

CT Scanner Siemens Sensation 16

<table>
<thead>
<tr>
<th>CT Scanner</th>
<th>Siemens Sensation 16</th>
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</thead>
<tbody>
<tr>
<td>Supine</td>
<td>16 x 1.5</td>
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<tr>
<td>Prone</td>
<td>16 x 1.5</td>
</tr>
<tr>
<td>Tube voltage(kV)</td>
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<tr>
<td>Rotation time (s)</td>
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<tr>
<td>Pitch</td>
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<td>Effective mAs</td>
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Post Processing

- Post-processing of the acquired data done on a workstation.
- 2D multiplanar reformatted sagittal, coronal, oblique coronal and 3D virtual colonoscopy (endoluminal) images are generated with fly through software.
- Synchronous lesions are also evaluated on endoluminal images.
Post Processing Images

Advantages of MDCT

- MDCT contrast enhanced CT for their staging.
- It is a one stop study of the bowel and the extra-luminal pathology.
- It will help to generate additional endo-luminal views (virtual colonoscopic views) and improve detection of synchronous lesions.
- This study aims to find the accuracy of contrast enhanced MDCT colonography in the staging of colon cancer.

Benefits Of CT Virtual Colonography

- Faster examination time and this is a non invasive test.
- It provides three-dimensional images that can depict many polyps and other lesions as clearly as when they are directly seen by optical Colonoscopy.
- Reduced patient risk CT Colonography has a markedly lower risk of perforating the colon than conventional Colonoscopy.
- Most of those examined do not have polyps, and can be spared having to undergo a full colonoscopy.

Limitations of CT Virtual Colonography

- CT Virtual Colonoscopy is strictly a diagnostic procedure. If any significant polyps are found, they will have to be removed by conventional colonoscopy.
- Differentiation between benign and malignant tumors.
Conclusion

- MDCT Virtual Colonography is a new technique that combines the advantages of both cross-sectional imaging and actual colonoscopy.
- The aim of this is to evaluate the accuracy of contrast enhanced MDCT Colonography in staging of colorectal cancer.
- Accurate pre-operative staging is essential for optimal treatment and surgical planning of colorectal cancers.