ENDOSCOPIES

A Study of Concepts

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Introduction

ENDOSCOPY is the direct visual examination of certain natural body openings or cavities by means of hollow lighted instruments or tubes which are either metallic or fibreoptic.

Two bundles of many thousands of fine glass fibres are contained in the instrument's shaft. One bundle carries light to the tip of the instrument in order to illuminate the organ being examined whilst the other has its fibres alighted identically at both ends so that it can transmit an image back to the observer. The fibre bundles of fiberoptic endoscope are flexible so that the whole shaft can be bent and easily passed into the upper gastro-intestinal tract or colon. The shaft of the instrument also carries controls so that the tip of the instrument can be moved and channels through which air can be passed to inflate the organ, or forceps, to take a biopsy from the mucosa.

Rigid instruments are not used now-a-days as they were used previously because of their limited movement. But sometimes rigid instruments are used to examine the sectum and lower pelvic colon (sigmadoscope) and occasionally the oesophagus (oesophagoscope).

Various Types of Scopies

1. *Oesophagoscopy:* Visualization of oesophagus: This is always carried out when there is dysphagia or when the barium swellow suggests that tumour or stricture is present. Relative indication includes, suspected oesophagitis, varcies or the presence of a motility disorder since that can be associated with a tumour.

2. *Gastroscopy:* This is Visualization of stomach. Indications: (a) Gastric ulcer—demonstrated on barium studies—to take biopsy and differentiate whether it is benign or malignant (b) Assessing of healing of ulcer after drugs therapy.

3. *Duodenoscopy:* This is Visualization of duedenum. Indications: (a) Duedenal ulcer (b) Cannulating the ampulla and inject—dye into the pancreatic duct—to visualize under fluoroscope.

4. *Jejunoscopy*: Direct Visualization of the jejunum by means of a flexible endoscope. *Indications*: (a) Any un-explained diaarihoes. (b) Any jejunal lesions.

5. *Pandoscopy*: It is a Visualization of more than one organ with the same scope, i.e. pandoscope. With this scope one can visualize oesophagus, stomach and duedenum. Indication: (a) Haematemis (b) Malacna (To detect the lesion).

6. *Proctoscopy*: Visualization of the lower bowel or anus. Indications: 1. Bowel disturbance or other symptoms referrable to the lower bowel or anus (disturbance of 2-3 cms of the anal canal). 2. Haemorrheids. 3. Crohn's disease.

7. *Sigmodoscopy:* Visualization of the rectum and the lower few centimetres of the pelvic colon. Indications: 1. Any fissure causing rectal bleeding, 2. Ulcerative colitis. 3. Any growth. 4. Polypectomy is done after sigmodoscopy with the help of sigmodoscope.

8. *Colonoscopy:* Visualization of whole colon. This procedure is time consuming and occasionally difficult and uncomfortable for the patient because a lot of air goes in to inflate the colon which helps in visualization of the colon. The procedure is the only alternative to laprotany for those patients whose barium enema examination shows danger which could be due to carcinema and also polyps can be removed through this scope. Indications: (1) Rectal bleeding which is not significant of any disturbance in the lower anal-canal (2) Polyps. (3) Lesion in the intestines, (4) Tumours in the intestines. (5) To take biopsy of the lesion to differentiate whether it is malignant or benign. (6) To take washes for culture and sensitivity.

9. *Bronchoscopy*: To visualize the broncous and broncholes of the lungs. (1) To diagnose brenchogenic careinema. (2) To take bronchial brushings.

10. *Mediastinoscopy* is done by incising the supraclanicular region or the suprasternal fossa permit passage of a lighted tube so as to visualize the organs of the mediastinum. Indications: (1) To take biopsy of mediastinal lumph nodes in diagnosing tumours of the lungs.

11. *Cystoscopy and Urethroscopy* are procedures for visualizing the inside of the bladder, the ureteral erifices and the lining of the urethra by means of cystoscope and urethroscope respectively. Indications: (1) To diagnose whether the abnormalities or the signs and symptoms are due to stones, growth or trauma. (2) Biopsies can be taken by electroddesiccation of the tissue to rarify the malignancy.

12. *Sinoscopy* is an endoscopic procedure for direct visualization of interior of maxillary sinus by means of a fibre-optic endoscope (maxillary antruscope or sinoscope) introduced into the maxillary sinus either through the inferior-meatus route or through canine-fossa. Indications: Any maxillary sinus anomaly not diagnosed by other investigations.

Assisting of a Nurse in Endoscopies

1. Setting up an environment for the procedure:

(a) Endoscopy room—Endoscopy room can be any room with (i) bed/table/couch with a comfortable mattress and pillow, (ii) lenin-clothes for the physicans, nurse and the patient and towels for covering the patient for protecting his clothes and bed sheets for the couch/bed/table (iii) operation theatre set-up changing facilities, changing chappals etc. (iv) Fumigated room

(take fibreoptic equipment out while fumigating the room otherwise it will get destroyed).

2. Suction machine and catheters.

3. Cup-board with hangers to hang the endoscopes after this procedure.

4. Shelves for keeping the endoscopes (not in use) in cases.

5. Stabilizer for stabilizing the electric voltage.

6. Medicine tray-containing : (1) Inj. diazepam (2) Xylocaine jelly 2% (3) Inj. Buscopan (4) Inj. fortwin (5) Inj. baralgan (6) Inj. atropine.

7. Emergency tray : Containing life saving drugs like (i) Inj. Adremaline (ii) Inj. deriphyline (iii) Inj. efcestin, etc and other resuscitating equipments.

8. Dust bin/emesis basin.

9. Equipments for enema.

10. Endoscopes with light source.

11. Gloves.

12. Spirit swabs.

13. 30% alcohol.

14. Biopsy forcep brushes for cleaning the endoscope.

15. Fitter papers, Formaline vials.

16. Privacy for the patient—calm and peaceful environment.

Preparation of the Patient

(a) Keep the patient fasting for 6 hours for upper GIT endoscopies. Tell the patient not to have milk before endoscopy because milk takes long to digest.

(b) For lower GIT endoscopies—preparation is giving small enema, for colonoscopy give large enemas and bowel washes till the outcome is clear.

(c) Inj. fortwin may be given prior to the colonscopies because it is a very painful procedure and is to raise the threshold.

(d) Changing the clothes of the patient and covering his neck-protecting from seoretians.

(e) Explaining the procedure to the patient.

(f) Remove spectacles, dentures or any other prostheseis.

Therapeutic Aspects

1. Endoscopic examination depends on illumination of the cavity by an adjacent light source. For this reason room lights are dimmed. A towel placed on the patient to protect him from secretions.

2. Application of topical anaesthetic must be followed by a brief waiting period while it takes effect. The patient then lies on his side position as the tube is passed. Swallowing by the patient will facilitate tube insertion. Some gastroenterologists do not give topical anaesthctics but in bronchoscopy, cystoscopy etc., general anaesthesia may be given and post-op. care is like other surgical patients.

3. Continual reassurance by the nurse during the examination is essential when topical anaesthesia is given or it is done without any anaesthesia.

4. A brief cramping sensation may be experienced when the endoscope is passed into the stomach and also when air is pumped into the stomach to inflate for better visualization. The patient should be re-assured that the temporary feeling is expected.

5. After endoscopy the patient is observed for pain, indicating : Complication : No fluids are given until the gag reflex is completely restored.

6. Frequent monitoring of vital sign.

7. Psychological support to the patient.

8. After care of the equipments :

When the patient is taken out of the room and made comfortable, the set-up is to be kept ready for the next patient. As :

(i) Change the sheet, towel and remove the used gauze pieces and dispose them off. (ii) Change the water of the basin. (iii) Clean the endoscope. Usually endoscope is cleaned by plain water and soap and water and then again with clean water. Channels are cleaned with brushes of the definite size and endoscope is hanged till the next use.

Instructions : (1) Never keep the endoscope moist. Moisture may give rise to fungus and thus may block the channels and may give infection to other patients. (2) Mucans should be washed immediately otherwise it may get stuck and block the channels. (3) Never use any antiseptic. It is nice to use only soap and water and plain water. If the endoscope is used on some infected patient—just disinfect it in cidex solution—by keeping it in the disinfectant just for 10 minutes. If it is kept for more than 10 minutes it may destroy the fibres as was discussed by olymphic engineers. As the scopes are never autoclaved it is advisable to give antibiotics prior to the procedure—for bronchoscopy, cystoscopy etc and is not necessary for GIT endoscopies. Antibiotics prevent the post-op. infection.

Bibliography

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5. Gastroenterological nursing by Helen E. Gribble.

TNAI Guest Rooms

We plan to renovate our single room tenements at the TNAI Headquarters and convert these into guest rooms. The Executive Committee in its recent meeting considered the matter and decided to appeal to members in finding financial resources for this purpose. It was also agreed that guest rooms could be named after the person who contributed a major portion of the expenses on renovation as a whole or for one room. The estimated expenditure at present is Rs. 50,000 (fifty thousand) for the three rooms.

The members are requested to help us in collecting this amount so that we can provide the facility of guest rooms to nurses visiting Delhi.

Secretary, TNAI