Colon Hydrotherapy Abstract

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Colon Hydrotherapy for Pre-endoscopy Preparation

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ABSTRACT:

Objective: To evaluate the effectiveness of colon hydrotherapy in preparing the large bowel for colonoscopy, as a new approach to pre-colonoscopy preparation.

Method: Colon hydrotherapy was carried out in 690 patients who were scheduled for colonoscopy. The degree of cleansing achieved was determined and documented after colonoscopy.

Results: Colon hydrotherapy procedure carried out to prepare the large bowel for colonoscopy was successful in 98% of cases.

Summary: Colon hydrotherapy is an effective means of cleansing the large bowel in cases undergoing colonoscopy. It is more effective than the use of either oral Mannitol or Magnesium sulphate as a means of cleansing the large intestines prior to colonoscopy.

Colonoscopy is an important diagnostic procedure undertaken to evaluate colon disorder. Preparing the bowel is necessary prior to colonoscopy, to allow clear visualization of the bowel wall and any pathology within. There are presently a number of recommended measures to prepare the large bowel. These include the use of enema, oral mannitol and oral magnesium sulphate. At the hospital, we have been carrying out colon hydrotherapy prior to colonoscopy with the Olympus CF-230 colonoscopy since August 2000. Results have proved to be very satisfactory.

1. METHODOLOGY

1.1 Materials

Details of patients undergoing colonoscopy after colon hydrotherapy sessions were documented between Aug 2000 and April 2003. There was a total of 690 patients, 378 males and 312 females. Age ranged from 26 to 76 years - average of 49 years. Among them there were 144 cases requiring polypectomy, 74 cases with chronic constipation and 116 cases with history of diarrhoea. Cases with constipation were prescribed 50 mls of 33% Magnesium sulphate at 8:00 pm of the night before colonoscopy to facilitate the softening of stool in the bowel.

1.2 Colon hydrotherapy procedure:

Colon hydrotherapy sessions are carried out using an instrument to introduce water into the large bowel. Water is filtered to remove solid sediments and particles as well as passed through an ultra-violet unit to kill bacteria and viruses prior to infusion. Water pressure and temperature is carefully monitored throughout the procedure. Abdominal massage carried out by the therapists during the procedure facilitates the elimination of waste matter from the entire length of the colon. This ensures that the colon is adequately cleansed.

Preparing for the procedure is simple. The patients maintain normal meals without the need for fasting. Prior to the procedure, the bladder is emptied. After lying down, he assumes the Sim's position, (lying of left side, left leg straightened and right leg bent towards chest to allow examination of anus and insertion of speculum). A digital rectal examination is carried out to ascertain there is no anal or rectal pathology, anal tone and direction of rectal passage.

After the speculum is connected to the colon hydrotherapy instrument with disposable tubings, the tip of the speculum is lubricated with vaseline cream or surgical lubricant and inserted through the anus into the rectum. Care is taken to ensure insertion follows the anatomy of the rectal passage. After insertion, patients assume a supine position.

The patient is ready to proceed with the cleansing procedure. Purified and ultra-violet light irradiated water which is pre-heated to between 36 to 39 degree C by the colon hydrotherapy instrument is then infused into the patient under low pressure. When the patient experiences a strong urgency to evacuate, the flow is terminated and the outflow valve is opened to allow the colon to spontaneously empty itself (emptying phase) of waste which is carried out by the outflow of water. During this emptying phase, abdominal massage is carried out along the length of the colon to push the water deeper until it reaches the caecum. Massage also helps to loosen the waste from the colon wall and to encourage peristaltic action of the colon. A series of fill and emptying phase is carried out until the discharging effluent is clear of fecal matter. The speculum is then withdrawn. Time taken to complete the colon hydrotherapy sessions varies between 30 to 60 minutes with an average of 46 minutes.

1.3 Results
Findings on colonoscopy after colon hydrotherapy were categorized as:

RESULTS	**VIEW OF COLON**	**LOOSE DEBRIS/WASTE**	**REMARKS**
Excellent	Clear	Negligible	
Good	Clear	Small amount, not affecting results	
Satisfactory	Adequate	Moderate amount	Require adjustment e.g. flushing, position change for proper viewing
Poor	Inadequate	Significant amount	Colonoscopy unsuccessful

1. Excellent: clear view of colon lumen with negligible amount of retained debris.
2. Good: clear view of lumen clear with small amount of retained debris, not affecting vision.
3. Satisfactory: clear view of lumen only with positional adjustment and some flushing during procedure, waste moderate amount**.**
4. Poor: view of lumen and introduction of scope affected by significant amount of retained waste. Colonoscopy unsuccessful.

Results of findings were blinded to individual colonoscopist.
Criteria 1, 2, & 3 indicated successful procedure. Criteria 4 indicated unsuccessful procedure.

For ascending colon: results were as follows:
Excellent: total no. 630 = 91.30%
Good: 45
Poor: 15 = 8.70%
For transverse colon: results were as follows:
Excellent: total no. 675 = 97.82%
Good: 9
Poor: 6 = 2.17%

For descending colon: results were as follows:
Excellent: total no. 684 = %
Good: 3
Poor: 3 = %

Patients with poor results generally had swelling within lumen interfering with entry of scope.

Patients response from questionnaire survey indicated 651 (94.30%) were receptive of colon hydrotherapy as a pre-colonoscopy preparatory measure. A small number indicated that there was slight abdominal discomfort and abdominal distension during the procedure.

DISCUSSION

Preparing the colon is a necessary step for colonoscopy. Standard pre-colonoscopy preparation procedure varies with different hospitals and even with different practitioners performing colonoscopies. Each approach has it's pros and cons. The degree of effectiveness was usually similar - to provide a clear view during colonoscopy.

Prior to the introduction of colon hydrotherapy, our department was using one of the following colon prep methods:

1. Oral Mannitol
2. Oral Magnesium sulphate

The action of oral Mannitol on the colon is due to it's lack of absorption by the colon resulting in a increase of osmotic pressure within the colon lumen. Thus water is retained resulting in distension of colon lumen and reflex peristalsis which helps to expel colon contents and empty the colon. However, oral mannitol can be acted upon by the intestinal flora and can lead to gaseous build up and over distension. If mannitol prep is used prior to certain surgical procedures with high frequency electronic equipment, it is potentially hazardous with the possibility of being explosive in nature.

Use of Magnesium sulphate requires 100 to 150 mls of 33% $MgSO_4$ to be given orally 5 hours prior to colonoscopy. This is followed 30 minutes later with drinking of 1.0 to 1.5 liters of water. Patient should be fasting prior to colonoscopy. This method offers a 95% success rate.

Patients using this approach need to undergo a fasting period and thus may not be suitable in diabetic patients and those who are unable to tolerate a fast. For the elderly and frail individual who may have mobility problems and difficulty getting to the toilet quickly due to the induced diarrhoea, it is also not recommended. In addition $MgSO_4$ may be nauseating to some and prevent large volume of fluids being consumed, thus making this approach unsuitable for clearing the bowels.

Other methods such as the use of enema agent is possible but results are different from colon hydrotherapy. Enema products tend to only clear waste from the rectum and distal part of the colon. Colon hydrotherapy can effectively remove waste from the entire length of the colon without the discomfort and distress associated with an enema.

Colon hydrotherapy is not only useful in cleansing the colon. It avoids the discomfort of diarrhoea episode, the need to drink a large volume of water with it's potential upset of electrolyte balance or to undergo a period of fasting. Normal intake of food and drinks is allowed although reduced amount is recommended. Chronically constipated patients do not have to undergo fasting. However it is recommended that they are prescribed a dose of 50 mls. 33% $MgSO_4$ on the night before the procedure. This assists in softening fecal matter up to the caecum. Colon hydrotherapy is carried out 2 hours prior to colonoscopy.

Since we started using colon hydrotherapy in preparation of patients undergoing colonoscopy in our hospital, we achieved excellent results in 630 patients and good results in 45 patients giving a 98 % success in our study population of 690 patients.

In the early days of our study, a small proportion of our patients had minor abrasions and small bleeding on the surface of the rectum wall. This commonly occurs as a result of forceful insertion of the speculum without realizing the anatomy of the ano-rectal passage. A rectal examination with the forefinger will help to determine the anal tone, the direction of the passage, any mass within the lumen and surrounding structure. Such precautions are necessary to avoid injury to the rectal wall. This rectal examination together with a brief clinical history and examination is necessary as a pre-screening procedure for all patients undergoing colon hydrotherapy.

Colon hydrotherapy is a simple and effective way to prepare the colon for colonoscopy as well as other colon procedures, especially in the elderly, frail and constipated. It is also useful in diabetic and patients unable to undergo fasting as well as those who are unable to tolerate an episode of diarrhoea.

Colon hydrotherapy actively promotes peristalsis, enhancing the tone of the colon musculature and supports the elimination of physical as well as toxic waste from the colon. This is of advantage to patients suffering from constipation and those who with poor bowel habits.

We have been using the colon hydrotherapy instrument which is FDA registered and USA manufactured. The instrument incorporates temperature, pressure and flow control to ensure safety of the procedure. Pressure of water rarely exceeds 2 psi (pounds per sq. inch) to achieve the necessary results in elimination of waste. In the USA, the use of the instrument for over 30 or more years have not resulted in any adverse incidents. The use of disposable speculum and tubings recommended maintains hygiene and avoids contamination. Patients undergoing the procedure have expressed a high level of satisfaction. With the increasing level of effluence, it is expected that colon hydrotherapy will become a recommended preparatory approach for individuals who require colonoscopy.

Reference:

* Several references from other Chinese publications quoted.