

Use of Urine Bag for Performing Single/Double Contrast Barium Enema Examination and Water Washout Enema for Ct Virtual Colonography

Muhammad Ovais Aslam¹, Muhammad Arqam Awais², Shafiq Ahmed³

ABSTRACT:

Aim:

To suggest alternate methods to Radiologist where enema bags are not available and affordable or the supply of bags is not consistent.

Materials & methods:

Urine or drainage bags with one-way valve can be used after simple modification. Barium can also be locally formulated for use in remote areas when the recommended products are not available.

Result:

The results are comparable to what is achieved with the use of the normal enema bags available in the market This technique is cost effective and benefited for the people in poor and remote areas.

Conclusion:

We recommend this technique to be used where the proper Barium enema bags are not available or cannot be affordable.

Key Words: *_ Barium, Barium Enema, Enema Bags*

Muhammad Ovais Aslam¹

Muhammad Arqam Awais²

Shafiq Ahmed³

INTRODUCTION:

Various ways are in use for performing DCBE starting from old enema cans to sophisticated pumps for putting barium and air into large bowel of patients. Some of them are quite expensive and many of them are now obsolete. With the increasing cases of Hepatitis and AIDS in the world especially in the developing countries, disposable containers are preferable to avoid cross infection.

MATERIALS AND METHODS:

A urine or drainage bag with a one-way valve is required (JMS Naka-Ku Morishita-73-Japan or BMI-Bever Medical Industries Commonest Ltd. Thailand or Svend Andersen Plastic Industries A/S Denmark Company etc.). The input tube with the one-way valve in its proximal end is cut close to the bag and this opening is used for filling the bag with barium mixture and air while the other opening for emptying the bag is clamped. The air will settle above the barium in the bag. A long plastic tube is fixed to the clamped opening made for emptying the bag and the bag is hung from a drip stand with the long tube directed downwards and attached to the rectal catheter. The clamp is released and the barium mixture is allowed to pass into the colon, with the air remaining above the barium within the bag. When the desired amount of barium has passed into the colon the bag is lowered to the floor with the patient lying prone and elevating the table head until excessive barium is drained from the rectum into the bag. Now put the bag on the examination table and with both hands gently press the bag against table until the desired amount of air is passed into colon, keep on checking under fluoroscopy. The long tube is clamped and the patient is

moved around on the table until adequate coating of the entire colon is achieved. The necessary exposures are then made. If more air is required it can be added through the one-way valve into the bag by a simple air pump. This opening can also be used for putting in more barium if required for the examination.

The EZEM enema bag (EZEM mfd. in USA by E-Z-EM, Inc., Westbury, NY 11690) can also be used in the same way as described above. The only disadvantage is that there is no valve in the inlet for filling the bag with barium or air if required during the procedure and an attempt will result in the spillage of the fecal contaminated barium and air within the bag.

It is also possible to fill the barium-containing bag with CO₂ from cylinder or expired air (containing more CO₂) instead of room air [1] [2], [3].

In case of non-availability of proper barium product for enema examination, barium can also be formulated for double contrast examination by adding Xantha gum (natural gum) 0.2% W/W or CMC (carboxy methyl cellulose) food grade 0.4% W/W to the available products for Barium Meal examination in order to get reasonable coating of the colon for double contrast examination.

DISCUSSION:

The use of a drainage bag or urine bag or modified enema bag with a valve in the inlet, can make the procedure of DCBE examination or even single contrast examination easier and more convenient. The examination can be

performed as a closed system with no risk of cross-contamination, no foul smell, and there will be no need to remove the barium bag and tube in order to attach an air pump.

We have performed a lot of cases by using our modified bags. In our experience this technique is less time consuming, cost effective, easily and readily available and should be acceptable to radiologists especially in the developing countries and can be used in departments where enema bag supply is not regular or affordable. This bag can also be used for water Enema before the examination if preparation of patient is not good.

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