

PALLIATIVE PEARLS

BY ENCLARA PHARMACIA

Rectal Administration and The Macy Catheter®

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Patient Case

JK is a 68 year old male with a primary diagnosis of lung cancer metastatic to bone, brain, and liver. He also has a history of cardiac disease and no known allergies. JK lives at home with his wife who is his primary caregiver.

Current Medications:

- Morphine extended release (MS Contin®) 60mg tablet; Take two tablets (120mg) by mouth every 12 hours for pain
- Oxycodone 40mg/ml compounded oral solution; Take 0.5ml (20mg) by mouth every 4 hours as needed for pain
- Dexamethasone (Decadron®) 4mg/ml suspension; Take 1ml (4mg) by mouth daily for cerebral edema
- Lorazepam (Ativan®) 1mg tablet; Take one tablet by mouth every 4 hours as needed for anxiety
- Haloperidol (Haldol®) 2mg/ml oral solution; Take 0.5ml (1mg) by mouth every 4 hours as needed for agitation

JK has a strong desire to remain at home and refused inpatient care in the past when his symptoms worsened. His wife and family support his decision to stay at home and are working closely with the hospice team to aggressively manage his pain, occasional seizure activity, and agitation.

When first admitted to hospice, JK's pain control was acceptable. However, during the first week, JK had a seizure that was controlled with a diazepam suppository. He was continued on lorazepam 1 mg, but the order was changed from PRN to every 6 hours around the clock for seizure prevention and to manage his anxiety and restlessness.

JK was having periods of unconsciousness, rendering him unable to swallow routine liquid medications. He was transitioned from MS Contin 120 mg every 12 hours to a fentanyl transdermal patch 150mcg applied every 72 hours, with oxycodone 40mg/ml compounded concentrate at 20mg every two hours as needed for pain. Despite this pain regimen and around the clock management with haloperidol and lorazepam, JK was still experiencing pain and severe agitation. A decision was made to place a Macy Catheter® for rectal administration of his medications.

INDICATIONS FOR RECTAL ROUTE FOR DRUG ADMINISTRATION

- Intractable nausea and vomiting
- GI obstruction
- Dysphagia

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- Esophageal stricture or malignancy
- Loss of consciousness
- Refusing oral medications or spitting out tablets

Advantages:

- Avoiding painful injections
- Administration of drugs that don't have a SUBCUT/IM/IV dosage form
- Ability to continue treatment with medications essential to comfort

Limitations:

- Not all drugs are absorbed rectally
- Tablets and capsules administered rectally may vary in how they dissolve. It depends on presence of stool in the rectum and hydration status.
- Suppositories may be expelled prematurely and not provide the total drug dose
- The patient and family/caregiver may have concerns regarding the patient's privacy or feel embarrassed by rectal administration

THE MACY CATHETER¹

The Macy Catheter[®] is a prescription device to be placed by a clinician. It can be purchased from www.Hospicorp.com or online medical supply websites like www.medline.com. Once in place, it can be used for repeat administration of liquid medications in solution or suspension form. The Macy Catheter is comprised of a dual port, dual lumen ballooned tube that is inserted in the rectum just past the rectal sphincter, where the retention balloon is inflated to hold the device in place.

The Macy Catheter medication port is specifically designed to be compatible with oral/enteral connectors only, reducing the chance of connection errors. The medication port also features a valve to prevent leakage and is designed to be non-clogging. The Macy Catheter is also designed to expel with defecation, or it can be easily removed prior to a bowel movement. The balloon is smaller and softer than typical stool in the rectum.

Solid forms can be crushed, mixed with water, and delivered in a suspension or solution with an enteral syringe. Commercially available liquid or suspension forms of medications are injected directly into the catheter.

Liquipill System²

The Liquipill System[™] can be purchased along with the Macy Catheter[®] as part of the Bedside Care Kit and is used to prepare mini-enema suspensions from oral tablets. The kit contains a Liquipill Assembly, Water Reservoir Assembly, and 3ml, 10ml, and 20ml Luer Lock Enteral/Oral Syringes. The Liquipill

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Assembly is a grinder attached to a reservoir for grinding tablets. The powdered tablets fall into the reservoir and 5-10ml of tap water is added using the enteral syringe. The mixture is shaken or swirled to create a suspension and the contents are withdrawn and administered through the Macy Catheter followed by an additional 3ml flush.

Advantages of The Macy Catheter®:

- Saves expense and time required for a specialty pharmacy to compound suppositories
- Can be used up to 28 days
- Once placed, The Macy Catheter® minimizes the need to repeatedly access the patient's rectum, which can be distressing
- Lessens the need to reposition the patient for rectal administration, which can be uncomfortable for patients
- Mini-enema suspensions appear to enhance absorption. Dissolving the tablet in this manner increases surface area compared to inserting a whole tablet and has faster onset and peak levels compared to suppositories.³

Limitations of The Macy Catheter®

- Cannot be used in patients with diarrhea; liquid stool in the rectal vault may interfere with adequate drug absorption.
- Cannot be used to administer long acting medications that otherwise can't be crushed or opened

COMMON HOSPICE MEDICATIONS WITH LITERATURE SUPPORTING RECTAL ABSORPTION:

- Dexamethasone (Decadron®)⁴
- Diazepam (Valium®)⁵
- Hydromorphone (Dilaudid®)⁶
- Ibuprofen (Motrin®)⁶
- Levetiracetam (Keppra®)⁶
- Lorazepam (Ativan®)⁸
- Methadone (Dolophine®, Methadose®)^{9,10}
- Morphine (MS Contin®)¹¹
- Ondansetron (Zofran®)⁶
- Oxycodone (Roxicodone®)¹²
- Phenobarbital (Luminal®)^{13,14}

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Pharmacist Assessment

The total volume of liquid medications being administered in a 24-hour period to maintain JK's current regimen includes haloperidol 6-8ml, dexamethasone 1ml, lorazepam 6-8ml, and oxycodone 12-24ml. This equates to 25ml of liquid medications per day, making sublingual administration impractical. The Macy Catheter® was placed and medication orders switched to PR administration. As JK's terminal agitation symptoms were refractory to lorazepam and haloperidol causing considerable distress for JK and his family, palliative sedation is recommended. Phenobarbital has shown to be effective rectally and is readily available and appropriate in the home setting.

Recommendation

Initiate phenobarbital 30mg tablet crushed and administered rectally via The Macy Catheter® every four hours as needed for agitation. The tablets were easy to obtain in a local pharmacy and the nurse picked up a four day supply.

Continue transdermal fentanyl every 72 hours and oxycodone and lorazepam liquids as needed via The Macy Catheter®. Patient was resting peacefully within 24 hours and died comfortably five days later with no further episodes of pain, agitation or seizures.

For additional information on this topic, please review these references:

Enclara Pharmacia's On Demand Educational Webinar, "Palliative Sedation". Click [here](#) to log in.

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