

The Role of G-tubes In Decreasing UTIs In A Cohort of Patients With Advanced MS

Authors

Healey, K.¹, Jouvenat, N.¹, McLaughlin, M.¹, Hart-Wann, L.², Rutledge, K.², Zabad, R.¹
University of Nebraska Department of Neurological Sciences, Omaha, NE¹; Quality Living Inc., Omaha, NE²

BACKGROUND

- While great strides have been made in the treatment of relapsing forms of multiple sclerosis (MS), still many individuals have or will enter a progressive form of disease.¹ A significant number will have substantial and in some cases profound disability. These numbers are expected to increase as the population ages.²
- Nearly all individuals with advanced disability related to MS will have urinary dysfunction.³ Many will have urinary retention placing them at risk for recurrent urinary tract infections (UTI).
- Urinary catheters are generally avoided but neurogenic bladder dysfunction with retention may necessitate intermittent or chronic catheter use. Approximately 30% of advanced MS patients will have catheters.³
- No standards or guidelines exist for patients with advanced MS:
 - Most studies of chronic catheter use are found in spinal cord injuries or the elderly in long term care facilities.
 - Over 100,000 residents of long term care facilities will have urinary catheters.⁴
 - Estimated annual costs of community acquired UTIs: \$1.6 billion.⁵
 - Catheter related bacteremia costs ~\$2,900 per episode.⁶
 - Bacteriuria occurs in nearly all indwelling catheters within 1 month.⁴
- Traditional definitions of UTI in chronic indwelling catheters are generally not helpful. Inappropriate treatment can be harmful, predisposing to antibiotic overuse and resistant bacteria.
- Symptoms or signs of UTI in those with chronic indwelling catheters are recommended³ including:
 - Fever
 - Change in level of consciousness or confusion
 - Blood in urine
 - Increased spasticity
 - Bladder pain
- Other complications of chronic indwelling catheter include catheter obstructions, bladder and renal stones, renal insufficiency, bladder cancer, hematuria and septicemia which can be life threatening in this vulnerable group of patients.
- Patients with progressive MS with advanced disability frequently have upper extremity weakness, swallowing dysfunction and may have cognitive deficits.^{1,2}

HYPOTHESIS

Concurrent loss of upper extremity strength, swallowing difficulty, and/or cognitive deficits are a unique problem set specific to individuals with MS, limiting functional ability to adequately hydrate, predisposing patients to an increased risk of UTI, especially in the presence of chronic indwelling catheters.

METHODS

Retrospective chart review, exploratory study - 3 patients

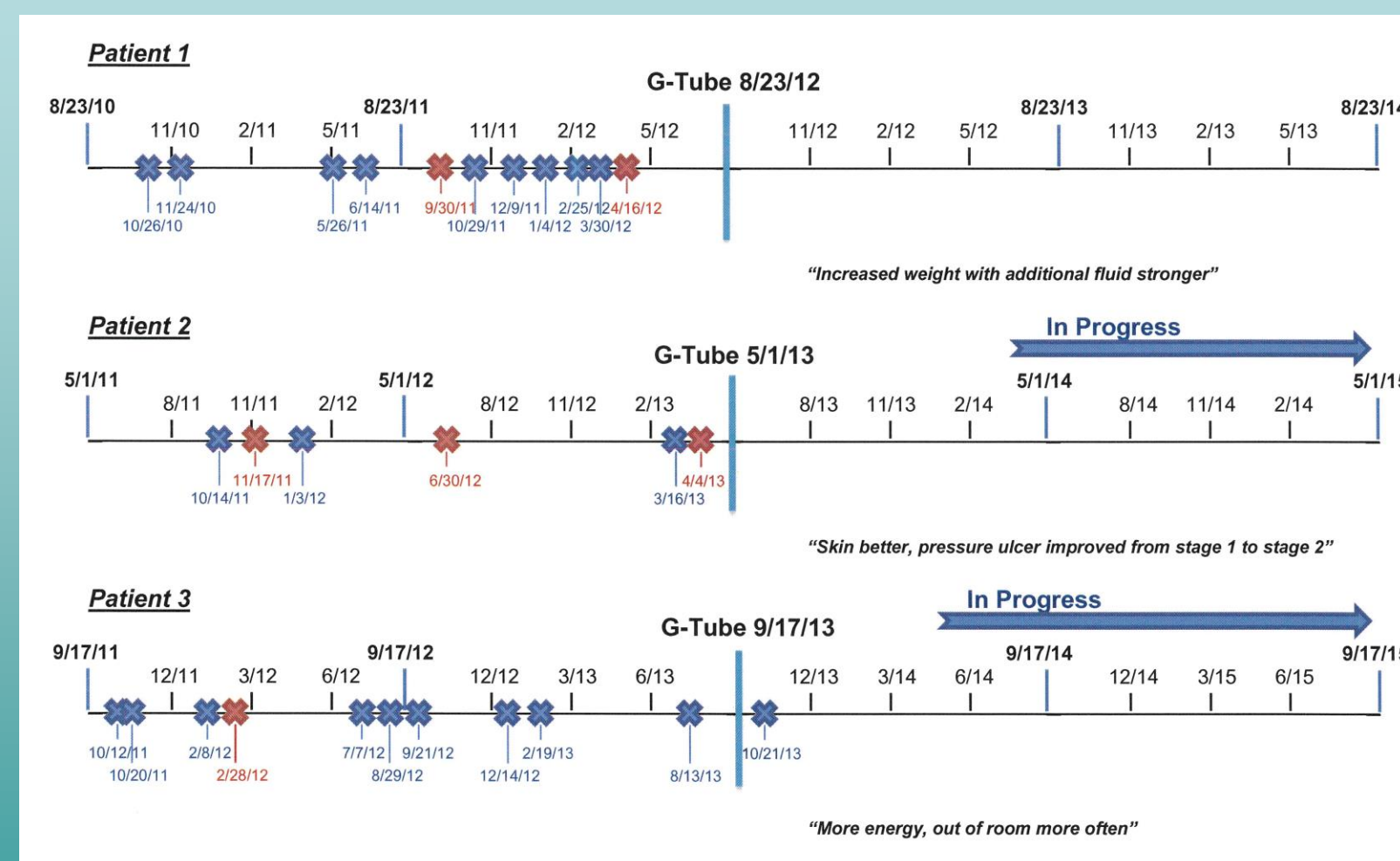
- Inclusion Criteria:
 - Progressive MS
 - EDSS \geq 8.0
 - Long-term care resident
 - Gastric tube (G-tube) placement for additional hydration (generally with swallow dysfunction)
 - Free fluid supplementation of 1500-2000 cc per day through G-tube
 - Chronic indwelling urinary catheter with documented UTIs

IRB obtained from University of Nebraska Medical Center

DEMOGRAPHICS

	Age	Gender	Year of Dx	EDSS
Patient #1	59	M	1977	8.5
Patient #2	67	F	1980	8.5
Patient #3	61	M	1992	9.0

RESULTS



CONCLUSION

- Results indicate trends in reduction of UTI in patients with chronic indwelling catheters with supplemental G-tube hydration.
- Preliminary staff surveys suggest additional benefits of supplemental hydration.

DISCUSSION

- The number of individuals with progressive MS will increase as the population ages and will exponentially increase the number of those with advanced disability.
- Avoid catheter if possible, but may be inevitable
- Obvious preventive measures tend to be overlooked (i.e. better hydration)
- Unique problem set with advanced MS creates the "perfect storm" for increased risk for UTI.
- Generally G-tube procedure is low risk.
- Most infections were proteus mirabilis predisposing to stones.⁷
- Caution in heart, lung disease or significant renal dysfunction
- Indication for G-tube imperative:
 - Swallow dysfunction supported by swallow study.
 - Or consistently low fluid intake (I & O done repetitively and on different days of week).
- An in-depth discussion with patient, family and staff regarding advanced directives and purpose of G-tube for hydration only; if needed for nutrition, then further discussion warranted.
- Limited study done in area of MS.
- Further study is needed to verify trends to develop treatment guidelines.

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