

APPROPRIATENESS OF INDWELLING URETHRAL CATHETER INSERTIONS IN THE EMERGENCY DEPARTMENT

Hypothesis / aims of study

Best practice guidelines identify appropriate reasons to insert an indwelling urinary catheter (IUC) (1); however, there is evidence to suggest that adherence to guidelines is poor and may be a particular problem in Emergency Departments (ED) where many catheterisations are initiated (2). This study aimed to describe the practice and reasons for the insertion of an IUC in adult patients in the ED of an urban Western Canadian hospital in order to inform an intervention to reduce the prevalence of catheter associated complications.

Study design, materials and methods

A prospective study of catheter insertion using a convenience sample of patients catheterised in the ED. For cases of catheterisation, data on patient demographics, admission diagnosis, indications and perceptions of appropriateness of the catheterisation were gathered from ED nurses attending the patient and from chart review. Appropriateness was then reviewed by the research team using current guidelines. Beliefs regarding appropriate indications for catheterisation were collected by nurse and physician surveys

Results

Of 150 cases of catheterisation in the ED, 62.7% occurred in patients ≥ 65 years old; 20.7% in those with an altered level of consciousness. Only 43.3% of cases had a written order for the IUC, 87.7% of which were ordered by an ED physician rather than physician or nurse practitioner from a consulting service. Only 5.3% of cases had a documented reason for IUC. For most cases, more than one reason for the catheter insertion was identified by the nurse. In 42.2% of cases, nurses believed that the catheter was for close monitoring of urine output for critically ill patients. Only 62 (41.3%) were deemed appropriate by the research team using current guidelines (Table I). Most catheterisation episodes (58.7%) were determined to be inappropriate using current guidelines (Table II), although 58.8% of nurses reported the catheterisation episode as extremely appropriate. 24.7% of the inappropriate cases occurred in non-critically ill patients and 24% were inserted to manage urinary incontinence. Inappropriate catheterisations also occurred in those patients with mobility impairment (19.3%) or confusion/dementia (18%). In a small number of cases (6%), the catheter was left in after obtaining a urine sample.

Table I. Number appropriate indwelling catheterisations according to guideline criteria (N = 150)

Indication for catheter insertion		Number	(%)
Appropriate		62	(41.3)
	Urinary retention or obstruction in urinary tract	13	(8.7)
	Close monitoring of the urine output of <i>critically</i> ill patients	36	(24.0)
	Selected perioperative use	9	(6.0)
	Prolonged immobilization (e.g. a potentially unstable spine, multiple traumatic injuries)	14	(9.3)
	Comfort in palliative/ terminally ill patients.	1	(0.7)
	Urinary incontinence with pressure ulcer on sacrum or perineum.	1	(0.7)

Table II. Number of inappropriate indwelling catheterisations according to CDC criteria (N = 150)

Indication for catheter insertion		Number	(%)
Inappropriate		88	(58.7)
	In non-critically ill patients	37	(24.7)
	To manage urinary incontinence	36	(24.0)
	Patient is not mobile	29	(19.3)

	To manage confusion and/or dementia	27	(18.0)
	To obtain a urine sample	9	(6.0)
	Stroke	6	(4.0)
	Manage obesity	6	(4.0)
	Others (e.g. internal temperature monitoring & use of diuretics)	26	(17.3)

Survey data revealed close monitoring of urine output for critically ill patients was the most prevalent appropriate indication for IUC use (24%), and 96.7% of nurses and all physicians surveyed perceive it as a correct justification. Furthermore, physicians and nurses commonly viewed gross haematuria (56% and 77.2% respectively) and stroke (32% and 55.9% respectively) as appropriate indications.

Interpretation of results

The majority of IUC episodes were deemed inappropriate by the research team when compared to current guidelines. One potential area for misunderstanding was in use of the phrase “critically ill” among ED nurses who inserted the catheters with or without written orders and the guidelines/research team. Criteria for the phrase “critically ill” are not detailed in current catheterisation guidelines. Also of concern is the large proportion IUC insertions designed to manage urinary incontinence or in those with mobility or cognitive deficits. Toileting needs of such patients could be met in other ways in the ED without resorting to IUC and the complications associated with them. Current guideline criteria do not address gross haematuria and stroke, two of the reasons many ED nurses and physicians identified as appropriate indications for IUC insertion.

Concluding message

Current best practice guidelines provide only general indications for appropriate IUC use and may need to be revised to address differences in understanding, including perceptions of what the term “critically ill” means. Inconsistent interpretation of this phrase may be responsible for many inappropriate catheterisations. In addition, there is a need for knowledge translation strategies that take into account both learning needs of clinical staff and systems issues within the ED environment to encourage the use of conservative management of continence in the ED, while reducing the inappropriate usage of indwelling urinary catheters.

References

- (1) Gould CV, Umsheid GA, Agarwal RK, Kuntz G, Pegues DA & Healthcare Infection Control Practices Advisory Committee. Guideline for prevention of catheter-associated urinary tract infections 2009. http://www.cdc.gov/hicpac/cauti/02_cauti2009_abbrev.html
- (2) Gokula RM, Smith MA, Hickner J. Emergency room staff education and use of a urinary catheter indication sheet improves appropriate use of foley catheters. Am J Inf Control, 35:9: 589-593.

Disclosures

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