

Preventing UTI following fractured hip surgery

By Betty Robinson, R.N., I.C.O.

Active surveillance is the basis of any infection control program. Data collection and analysis of hospital infection statistics provide the necessary information to identify where problems exist. Once a problem is identified, the appropriate person then has the opportunity to take corrective action.

During a routine current chart review for infections, I became aware of a high incidence of urinary tract infections (U.T.I.) in patients that had undergone repair of fractured hips. Upon further investigation it became evident that:

1. the majority of these patients had foley catheter drainage post-op, and,
2. a number of the patients became incontinent after removal of the catheter. I noticed some urinary tract infections were treated and some were not. I began to wonder:
 - a. how often is incontinence related to a U.T.I.?
 - b. does treatment of the U.T.I. lower the incidence of incontinence?

Literature review

A literature review revealed many articles addressing the epidemiology of U.T.I.s, causes and treatment of U.T.I.s and management of incontinence. There was surprisingly little on prevention.

UTIs: prevention, causes, treatment

The urinary tract is the most common site of nosocomial infection in acute care hospitals. U.T.I.s account for more than 40% of the total number of such infections, affecting more than an estimated

600,000 patients per year in Canada. Policies for the management of the indwelling catheter have played a major role in decreasing the number of U.T.I.s, but infection is still a major concern.

The risk of acquiring a U.T.I. following catheterization depends on the method and duration of catheterization, quality of care and host susceptibility. Fifty percent of hospital patients having an indwelling urethral catheter for longer than seven to ten days, develop bacteriuria. Specific host factors associated with an increased risk of infection during or after instrumentation include: female sex, advanced age, and degree of underlying illness.

Controversial treatment

The literature is controversial regarding treatment of catheter-associated bacteriuria (C.A.B.). Some authorities suggest that a patient with C.A.B. need not be treated unless he/she is at high risk of acquiring an infection. Catheter associated infections are generally assumed to be benign in otherwise healthy patients. Such infections are often asymptomatic and likely to resolve spontaneously with the removal of the catheter. It is generally recommended not to treat asymptomatic bacteriuria in the elderly because treatment may lead to a more resistant pathogen.

Because the above theories and recommendations can be misleading, I would like at this time to stress that an elderly patient admitted with a fractured hip and who requires a foley catheter is in the high risk group. According to this review, if the patient has or acquires a U.T.I. it would demand treatment.

Also, the Laboratory Centre for Disease Control in Ottawa (L.C.D.C.) recommends that any remote

site of bacterial infection should be treated because such an infection increases the risk of wound infection. This recommendation supports the treatment of U.T.I.s in the elderly surgical patient.

Prevention vs. treatment

Today's focus in health care is on the quality of life. This article addresses a problem that affects the quality of life, particularly that of the elderly surgical patient. By writing this article, I hope to promote an interest in prevention rather than just treatment and management of urinary incontinence.

When I first decided to review patients' discharge charts, I had asked the record department for charts of patients who had hip surgery. I was given 12 total hip patient charts. I did not see the results expected. Over 50% did not have a catheter, and another 15% had I & O (intake and output) catheterization that was successful. Also, the average age of the patients having the elective hip surgery was 64, a group younger than what I had targeted for.

Hip fracture patients

Changing my focus, I audited the charts of 36 patients admitted with fractured hips. Of these, 30 met the criteria I was looking for; that is, a catheter in place at least five to 10 days post-op.

Five of the 30 patients had an infection present on arrival. Each was treated with an antibiotic and voided satisfactorily after the catheter was removed. Eleven had no infection when the catheter was removed, with all eleven voiding satisfactorily.

Fourteen of the 36 patients developed a U.T.I. Of these fourteen, seven were treated with an antibiotic and six of them voided satisfactorily when the catheter was removed. One became incontinent.

An interesting part of the audit was that all the remaining seven who developed U.T.I.s and not treated, were incontinent when the catheter was removed.

Analysis and recommendations

1. Lower rates of infections have been reported following single, brief catheterization. Although it

Summary of the 30 patients audited

	Continent	Incontinent
Number infected	11	0
Infection and treatment	11	1
Infection and no treatment	0	7

Through close surveillance, infections can be identified early, thus providing the necessary information for quick and appropriate treatment.

may not be suitable for all patients, I & O catheterization should always be considered.

2. Routine culturing is controversial and not generally recommended. For a surgical patient, however, a urine culture on first catheter insertion and then on removal is useful. Such a culture can identify an infection remote from the surgical site that, according to the L.C.D.C., should be treated.

It is also useful to identify a recently acquired infection. It was interesting to note all U.T.I.s present on admission were treated, whereas only fifty percent of nosocomial infections were treated. Of the treated patients, nearly 100% were continent after the catheter was removed, whereas those not treated all became incontinent. Recommendations:

1. A urine culture for C&S be taken on catheter insertion and removal from every surgical patient requiring a catheter;
2. U.T.I. that is present on admission or nosocomial U.T.I. should be treated. Age is not a factor.

Conclusions

There is no way of knowing if the quality assurance problem detected in these samplings is indicative of the general situation. The study could be criticized because of the small numbers. Also, the methodology used was not as rigid as that found in a scientific study. In any case, these results indicate a correlation between U.T.I.s and incontinence and, therefore, warrant further study.

If this review is substantiated through research, nurses can play an important role in the prevention of incontinence. Through close surveillance, infections can be identified early, thus providing the necessary data for quick and appropriate treatment. ■

References

"Infection Control Guidelines," Health and Welfare Canada, Tunney's Pasture, Ottawa, Ontario.

About the author

Betty Robinson, is the Infection Control Co-ordinator, Sarnia General Hospital and St. Joseph's Hospital, Sarnia, Ontario.