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VOIDING DYSFUNCTION AFTER RADICAL HYSTERECTOMY FOR CERVICAL CARCINOMA

Hypothesis / aims of study

Radical hysterectomy is a recognized effective treatment for cervical carcinoma, especially in early stages. It has been well documented in various studies that long term clinically significant bladder dysfunctions occur in about 8-80% of patients [1]. Unlike carcinoma of corpus which more commonly affects women of more advanced age, cervical carcinoma often diagnosed in women of younger age group. Many groups have described different techniques in trying to preserve hypogastric nerves, pelvic splanchnic nerves and vesical branches of the pelvic nerve plexus in order to decrease the vesical dysfunctions following radical hysterectomy [2]. However, these surgical steps are not just technically demanding, sometimes these nerves may need to be sacrificed in order to achieve complete removal of the tumour with clear margins. Poor bladder management and over-distention of bladder in the initial post-operative phase may on the other hand result in hypotonic bladder and further aggravate the voiding symptoms. Therefore, the aim of this study is to review the short term voiding outcomes after non nerve-sparing radical hysterectomy for cervical carcinoma.

Study design, materials and methods

This study was a retrospective study conducted in a single centre. Patients who had radical hysterectomy for the diagnosis of cervical carcinoma from July 2012 to June 2015 were included in this study. Patients who received nerve-sparing radical hysterectomy were excluded as this study was mainly to review the voiding outcomes after non nerve-sparing radical hysterectomy.

The stage of disease (2009 FIGO staging), length of the operation and operative blood loss were identified from electronic patient records. Urethral catheter was usually left in-situ for two weeks after radical hysterectomy according to the department protocol. Urethral catheter was re-inserted if there was significant post-void residual urine, defined as 150ml on bladder scan. The number of times of re-insertion of urethral catheter and the number of days that the patient needed to be on catheter were recorded. Clean intermittent self catheterization (CISC) was taught if the patient failed to wean off catheter after multiple attempts. Urine samples were saved for culture if patients developed urinary symptoms or failed to wean off catheter. Urinary tract infection (UTI) was defined as $>10^5$ colony-forming units of an identified single uro-pathogen per millilitre of urine.

The primary outcomes are the incidence of requiring re-insertion of urethral catheter and the number of days that the patient needed to be on catheter. Incidence of UTI within 6 weeks after operation and the uro-pathogens identified were also assessed.

Results

Total 58 cases diagnosed with cervical carcinoma received radical hysterectomy during the study period. Two cases had nerve-sparing radical hysterectomy and therefore were excluded. Among the 56 remaining cases, 50 cases had stage I disease and 6 cases had stage II disease. 43 patients (76.8%) had robot assisted laparoscopic radical hysterectomy while 11 patients (19.6%) had radical hysterectomy by laparotomy. The remaining two cases had modified radical hysterectomy. The patients were ranged from 25 to 77 years old (mean age 50.9 years). The mean operative time was 274.7 minutes and the mean operative blood loss was 416.5ml. 30.4% of patients (n=17) were given adjuvant therapy after radical hysterectomy.

16 patients (28.6%) required re-insertion of urethral catheter due to significant post-void residual urine. 6 patients (10.7%) were taught the technique for CISC as they failed to wean off catheter after multiple attempts. Among these 6 patients, one patient was able to stop CISC after 4 days and the other patient was able to empty her bladder completely without CISC 3 months after operation.

53.6% of patients (n=30) developed urinary tract infection within 6 weeks after radical hysterectomy. Among these 30 cases, 19 urine samples (63.3%) yielded E coli which was the commonest uro-pathogen identified. The second most common uro-pathogen identified in these UTI cases was Enterococcus which was present in 5 cases.

Interpretation of results

Cervical carcinoma affects younger age group of women. In this cohort, the patients were ranged from 25 to 77 years old (mean age 50.9 years). All of them had early stages of cervical carcinoma. As over-distention of bladder in the initial post-operative phase may result in hypotonic bladder, it was the department protocol that patients were put on continuous bladder drainage with urethral catheter for 2 weeks after radical hysterectomy. The median duration of post-operative catheterization was therefore 14 days with range from 13 to 69 days. Almost 30% of patients failed to completely empty their bladder at post-operative 2 weeks, requiring re-insertion of urethral catheter. Although there was previous study suggesting earlier removal of urinary catheter after radical hysterectomy did not result in higher incidence of urinary retention, this was based on the fact that patients were taught to do intermittent self catheterization [3]. In Chinese population, which was the ethnic majority in this study centre, self catheterization is an unacceptable idea to most patients.

Prolonged catheterization is associated with higher incidence of urinary tract infection, which could then worsen the urinary symptoms. More than half of the patients developed urinary tract infection within 6 weeks after radical hysterectomy. Around two third of these patients had E coli urinary tract infection. Prophylactic antibiotic was not routinely given. However, if prolonged catheterization is anticipated, then prophylactic antibiotic covering E coli should be considered.

Concluding message

While radical hysterectomy is an effective treatment for cervical carcinoma, voiding dysfunction is common especially in immediate post-operative period. When nerve-sparing radical hysterectomy is not feasible, appropriate bladder management in initial post-operative phase avoiding over-distension of bladder is important. Early removal of urethral catheter with intermittent self

catheterization if necessary may be better approach when compared to prolonged indwelling catheterization. However, if intermittent self catheterization is not acceptable to patients and prolonged indwelling catheterization is anticipated, then prophylactic antibiotic covering E coli should be considered.

References

1. Zullo MA, Manci N, Angioli R, Muzii L, Panici PB. Vesical dysfunction after radical hysterectomy for cervical cancer: a critical review. Crit Rev Oncol Hematol. 2003 Dec;48(3):287-93.
2. Sakuragi N, Todo Y, Kudo M, Yamamoto R, Sato T. A systematic nerve-sparing radical hysterectomy technique in invasive cervical cancer for preserving postsurgical bladder function. Int J Gynecol Cancer. 2005 Mar-Apr;15(2):389-97.
3. Chamberlain DH, Hopkins MP, Roberts JA, McGuire EJ, Morley GW, Wang CC. The effects of early removal of indwelling urinary catheter after radical hysterectomy. Gynecol Oncol. 1991 Nov;43(2):98-102.

Disclosures

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