Does aspirin therapy affect outcomes of patients underwent radical cystectomy?

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BACKGROUND AND GOAL OF STUDY:

A clinical dilemma surrounds the use of aspirin therapy during radical cistectomy. The impact to interrupt or continue therapy with aspirin in the perioperative period have been recently studied with controversial results. The current practice at our institution has been to continue aspirin therapy up to surgery. The aim of this study was to assess safety of radical cistectomy in patients who received aspirin up to the day of surgery.

MATERIAL AND METHODS:

A total of 352 consecutive cases of radical cystectomy (open and laparoscopic) and urinary diversion between January 2011 and June 2015 in our centre. Perioperative data from patients who underwent radical cystectomy were compiled and analyzed according to the use of aspirin. The unadjusted and adjusted relationship between aspirin use and postoperative complications was evaluated using logistic regression analysis and by the propensity score for aspirin use.

RESULTS:

We included 352 patients, 91 (25.9%) received aspirin up to the day of surgery. Demographic data and preoperative risk factors are shown in table 1. Intra and postoperative data in table 2. Table 3 shows the unadjusted and adjusted in-hospital complications.

Table 1. Demographic data and preoperative risk factors

	Aspirin	No aspirin	P
N	91 (25.9)	261 (74.1)	
Age **	68.5 (67.2 - 69.8)	71.9 (70.2 - 73.6)	0.002
Gender (M/F) (n,%)	89 (97.8) / 2 (2.2)	238 (91.2) / 23 (8.8)	0.034
BMI **	27.4 (26.2 - 28.5)	27.2 (26.6 - 27.7)	0.693
ASA physical status (I/II/III/IV) (%)	0/20,9/67/12.1	7.7/50.2/37.9/4.2	<0.001
Hypertension (n,%)	61 (67.0)	121 (46.4)	<0.001
Coronary artery disease (n,%)	23 (25.3)	1 (0.4)	<0.001
Chronic heart failure (n,%)	12 (13.2)	8 (3.1)	0.001
COPD (n,%)	26 (28.6)	62 (23.8)	0.473
Smokers (n,%)	63 (69.2)	172 (65.9)	0.248
Diabetes (n,%)	29 (31.8)	43 (16.5)	0.001
Dislipidaemia (n,%)	54 (59.3)	74 (28.4)	<0.001
Peripheral artery disease (n,%)	30 (32.9)	19 (7.3)	<0.001
Cerebrovascular disease (n,%)	10 (10.9)	8 (3.1)	0.005
Chronic kidney disease (n,%)	29 (31.9)	44 (16.9)	0.003

*Median (25-75th percentile); ** Mean (95% CI)

Aspirin patients had more co-morbidity and worse functional class

Table 2. Unadjusted intra-postoperative data

	Aspirin	No aspirin	P
Surgery (open/laparoscopic) (n,%)	70 (76.9) / 21 (23.1)	162 (62.1) / 99 (37.9)	0.01
Anaesthesia (general/combined) (n,%)	14 (15.4) / 77 (84.6)	41 (15.7) / 220 (84.3)	0.942
Duration of procedure (min)*	325 (270 - 390)	350 (275 - 410)	0.111
Fluids (ml/kg/h)*	8.5 (6.2 - 11.9)	8.1 (6.3 - 10.4)	0.569
Col.loid (ml)	51 (56.0)	145 (55.5)	0.878
Estimated blood loss (ml.)*	500 (400 - 1200)	500 (300 - 750)	0.027
Hb (g/L) before surgery **	125.6 (121.6 - 129.7)	133.3 (130.9 - 135.6)	0.001
Hb (g/L) hospital discharge**	103.9 (101.3 - 106.6)	108.9 (107.2 - 110.7)	0.003
Red blood cell transfusion (n,%)	49 (53.8)	88 (33.7)	<0.001
Recovery stay (h)*	19.8 (17.3 - 22.5)	18.5 (15.5 - 20.8)	0.058

*Median (25-75th percentile); ** Mean (95% CI)

Unadjusted intraoperative blood loss, red blood cell transfusion, were significantly higher in aspirin group

Table 3. In-hospital postoperative events related to aspirin use

	Unadjusted OR (95% CI)	P	Adjusted OR (95% CI)	P
Complications (any)	1.2 (0.7 - 1.9)	0.516	1.1 (0.5 - 2.2)	0.885
RBC transfusion	2.5 (1.5 - 4.1)	<0.001	1.2 (0.6 - 2.4)	0.667
Postoperative blood loss (ml)*	146.1 (35.4 - 256.8)	0.010	85.9 (-68.8 - 240.7)	0.090
Respiratory	2.1 (0.9 - 4.4)	0.051	2.2 (0.7 - 6.3)	0.154
Cardiac	2.9 (1.1 - 7.3)	0.027	1.7 (0.4 - 6.8)	0.452
Neurologic	2.7 (0.9 - 8.3)	0.082	0.8 (0.1 - 4.1)	0.772
Septicemia	2.4 (0.9 - 6.7)	0.092	2.7 (0.7 - 11.0)	0.152
Ileo	1.2 (0.7 - 2.1)	0.446	1.2 (0.6 - 2.4)	0.652
Re-operation	2.3 (1.3 - 4.1)	0.005	1.02(0.3 - 3.9)	0.972
Mortality	1.9 (1.2 - 3.3)	0.009	1.1 (0.5 - 2.3)	0.868

*mean differences in ml.. RBC : Red Blood Transfusion; OR: Odds Ratio; CI: Confident Interval

After adjustment for most potential confounders factors, postoperative complications and mortality showed no statistically significant differences between the two groups

CONCLUSIONS:

Aspirin is not an independent factor for higher risk of postoperative complications or mortality in radical cystectomy. These data suggest that continuation of aspirin is relatively safe in this type of surgery, but larger, prospective studies are necessary to discern the true cardiovascular benefit derived from continued aspirin therapy ,as well as better characterize associated bleeding risk.

References: Davis NF et al. Perioperative management of antithrombotic agents in urological surgery. Br J Med Surg Urol. 2011; 4:187-96.
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