A UK urological cancer centre cystectomy service - What lessons can we learn?

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Introduction & Objectives: Radical cystectomy is the treatment of choice for muscle invasive bladder cancer as well as non-muscle invasive cancer refractory to intravesical and/or endoscopic control. However, radical cystectomy is a major operation with up to 50% post-operative morbidity and 1-3% mortality. Furthermore, as many as one in four patients (25%) will be re-admitted within 90 days following surgery.

Materials & Methods: Analysis of prospectively kept cystectomy database at UK Urological Cancer Centre over 10 year period.

Results: 453 radical cystectomy procedures (441 open, 12 RARC) were done over a ten year period. 72% were males. The modal age was 74.6 (range 34.2-90). 66.8% had muscle invasive disease as indication for surgery. Pre-operative staging MRI/CT CAP showed organ confined disease in 53.7% and locally advanced disease accounting in the rest. 25% of patients eligible for neo-adjuvant chemotherapy received treatment. Open radical cystectomy was the main technique utilized (88%) with laparoscopic and robotic cystectomy (12%) accounting for the remaining procedures. The average operating time was 3.4 hrs (range 2.5-8hrs). Blood transfusion rate was 9.3%. Rectal injury occurred in 1.1%. Clavien-Dindo Grade 3-4 post-operative complications were reported in 7.4% while the 90- day mortality rate rate was 2%. Unplanned re-admissions were needed in 12.7% of patients. Final histology revealed organ confined disease in 40%, locally advanced disease in 42% while no residual tumour was left in 14.3% who had an initial cancer histology. Nodal disease was detected on histology in 20.4%. Positive resection margins in the urethra and/or ureters occurred in 7.6%. The average length of hospital stay was 14 days (range 6-30 days) which had come down to 6.5 days at the latter part of the study with the implementation of Enhanced Recovery After Surgery (ERAS) practice.

Conclusions: The findings in our study corroborates other Urological Cancer Centres that report similar oncological, morbidity and mortality outcomes. Although Open radical cystectomy with ileal conduit diversion was offered in the great majority of patients, minimally invasive cystectomy programme is now firmly established with the installed of a Da Vinci Xi robot exclusively for urological procedures. While comparative trials of open (ORC) versus robotic radical cystectomy show equivalent oncological outcomes, blood loss, analgesic requirements, and hospital stay appear to favour RARC. The re-admission rate of 12.7% due to Clavien-Dindo Grades 1-2 complications could have been avoided with the provision of adequate Community Support Services. We have also identified the need for more orthotopic bladder reconstruction procedures to provide more natural voiding functions.