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INFLUENCE OF INTRAOPERATIVE BLEEDING ON URINARY FUNCTION AFTER NERVE-SPARING RADICAL PROSTATECTOMY

Hypothesis / aims of study
Urinary incontinence is one of the common complications of radical prostatectomy (RP). Nerve-sparing procedures have been performed to improve urinary function following RP. On the other hand, surgical stresses are considered to influence the success rate of nerve-sparing RP. The aim of this study was to evaluate the influence of intraoperative bleeding, i.e., one of the parameters of the surgical stresses, on urinary function after nerve-sparing RP.

Study design, materials and methods
A total of 41 patients undergoing bilateral nerve-sparing retropubic RP performed by a single surgeon from December 2002 to December 2008 were enrolled in this study. Preservation of the neurovascular bundle (NVB) was confirmed in each case by intraoperative electrophysiological testing. The patients were divided into 2 groups, based on the median intraoperative blood loss: group 1- less than 900 ml and group 2- more than 900ml. Urinary function was evaluated preoperatively and at regular intervals after RP based on urinary function scores in the validated expanded prostate cancer index composite questionnaire (EPIC).

Results
Urinary function scores, which decreased at 1 month after RP, recovered gradually in both groups. However, the patients in group 1 exhibited significantly higher scores at 3 and 6 months compared with those in group 2. Moreover, only patients in group 1 recovered function nearly to the preoperative level 24 months after RP. No significant differences were observed between the groups in preoperative urinary function, age at operation and preoperative prostate specific antigen.

Interpretation of results
Urinary function after bilateral nerve-sparing RP was restored earlier in the patients with less intraoperative bleeding. Control of intraoperative bleeding could result in a clear surgical field and careful dissection of NVBs, resulting in reduction of autonomic nerve damage due not only to technical nerve injury but also due to other factors, such as inflammatory changes or ischemic effects.

Concluding message
Intraoperative bleeding influenced the recovery of urinary function after bilateral nerve-sparing RP. It would be beneficial to reduce the amount of intraoperative bleeding for early recovery of urinary function.

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What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**Yes**
Specify Name of Ethics Committee	**The Ethics Committee of Tohoku University**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**