International Surgery Journal
Kumar SAC et al. Int Surg J. 2017 Oct;4(10):3466-3469
http://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: http://dx.doi.org/10.18203/2349-2902.isj20174517

Original Research Article

Simultaneous surgery for primary and nodes in carcinoma penis: a rural tertiary medical centre experience and results

Senthil Kumar A. C.[1], Rajesh S.[2]

[1]Department of Surgical Oncology, Saveetha Medical College and Hospital, Saveetha University, Tamil Nadu, India
[2]Department of General Surgery, Saveetha Medical College and Hospital, Saveetha University, Tamil Nadu, India

Received: 06 August 2017
Accepted: 02 September 2017

***Correspondence:**
Dr. Senthil Kumar A. C.,
E-mail: drsenthilkumarac@gmail.com

ABSTRACT

Background: Historically surgery for nodes in carcinoma penis was done as staged procedure due to fear of higher morbidity and longer hospital stay. However, in view of the established safety of the simultaneous procedure, very few centres do simultaneous surgery for nodes and primary in cancer penis.
Methods: A retrospective analysis of all the simultaneous surgeries for nodes and primary for carcinoma penis done at our hospital, during the period April 2015 to March 2017 were done and various parameters were calculated and compared with historical standards of various series.
Results: The various parameters namely wound morbidity, hospital stay and complications were analysed and compared with historical standards. A total of 15 patients during the above mentioned were found to be suitable for the analysis after having excluded patients who had previous therapy and inoperable tumours. The mean follows up period was 12 months (ranging from 8 to 20 months). The mean hospital stay was 15 days (range from 12 days to 25 days). The skin margin necrosis rate was 6.67%, wound infection rate was 6.67% and there were no perioperative deaths. The same was compared with historical standards.
Conclusions: Simultaneous surgery for primary and nodes in carcinoma penis is safe and the standard results are reproducible in a rural tertiary medical centre like ours.

Keywords: Carcinoma, Dissection, Nodes, Primary, Prophylactic, Therapeutic

INTRODUCTION

Status of inguinal nodes is regarded as the most important prognostic factor in carcinoma penis.[1] Traditionally, inguinal nodal dissections for carcinoma penis both the prophylactic superficial inguinal block dissection and the therapeutic ilio-inguinal block dissections carry a lot of morbidity.[2] Hence, the surgery for the inguinal nodes were usually not performed simultaneously. The implications of the staged surgery for primary and nodes in carcinoma penis is huge, considering the delay in completion of definitive treatment, the economic and social impacts of two admissions in hospital and two surgeries under anaesthesia. In a resource poor setting country like ours, especially in the rural population, this could result in a loss of patients for complete treatment. These could be prevented if simultaneous surgeries for the primary and nodes are possible without increasing the short-term wound morbidity and long-term complications.

METHODS

A retrospective study of all the patients who underwent simultaneous surgery for primary and nodes in cancer penis at our medical college during the period April 2015 to March 2017 were included for the study purpose. After excluding patients who had inoperable nodal masses or

those who have had prior neoadjuvant therapy in the form of radiation and chemotherapy, a total of 15 patients were found to be eligible for the analysis. The mean age of the patients was 52 years (ranging from 34 to 68 years). The policy followed in our hospital for all proven node positive cancers was to offer ilioinguinal block dissection on the same side and superficial block dissection for all high-risk node negative patients, which is the accepted standard treatment in the absence of the facility for radio nucleotide imaging for doing dynamic sentinel node biopsy. Frozen section of the removed superficial inguinal nodes was routinely carried out and if found to have tumour at the nodes, a complete ilioinguinal nodal dissection was performed. Drains were placed as a routine and removed later in the postoperative period when wound healing was satisfactory and drain output for consecutive days was about 20 ml or less. Prophylaxis for deep vein thrombosis with both stockings and subcutaneous heparin was offered for all patients. The percentage of patients who has prophylactic and therapeutic dissection among the patients was 40% and 60% respectively. Data was collected from the case sheets for skin margin necrosis, wound infection rates, perioperative mortality and long-term complications including limb and scrotal oedema.

RESULTS

A total of 15 patients had simultaneous surgery for nodes and primary during the study period April 2015 to March 2017. Of the 15, 11 had partial penectomy and remaining 4 had total penectomy with perineal urethrotomy as the procedures for the penile primary.

Table 1: Demography of patients.

Criteria	Number
Mean age	52 years
Nodal mass more than 4 cm	13.3%
Ulcerated nodal mass	0%
Prophylactic nodal dissection	40%
Therapeutic nodal dissection	60%
pT1 tumours	13.3%
pT2 tumours	66.7%
pT3 tumours	20%

Bilateral superficial inguinal dissections were performed in 6 patients, bilateral ilio inguinal block dissection was performed in 4 patients and unilateral superficial with contra lateral ilioinguinal dissection was done in 5 patients. Frozen section was done for all the superficial inguinal block dissections, with positive frozen section reports for nodal deposits followed up with a complete ilio-inguinal block dissection. The percentage distribution of prophylactic and therapeutic dissections for the groin was 40 and 60 percent respectively.

The morbidity assessed included skin edge necrosis (noted in 1 of the 15 patients) and wound infection (found in 1 of the 15 patients), with no perioperative mortality.

Table 2: Demography of procedures.

Procedure	No. of patients
Partial penectomy	11
Total penectomy	4
Bilateral superficial inguinal dissection	6
Bilateral iliolinguinal block dissection	4
Unilateral ilioinguinal block dissection with contralateral superficial inguinal dissection	5

The average hospital stay for the patients was 15 days (range 12 to 25 days). None of the patients had any neurological sequelae post-surgery. The medium-term morbidity during the follow up assessment at 6 months for limb oedema and scrotal oedema was performed.

Table 3: Morbidity data.

Morbidity criteria	Percentage
Skin edge necrosis	6.67%
Wound infection	6.67%
Perioperative death	0%

1 patient had limb oedema and 1 had scrotal oedema (accounting for overall 6.67% each). Being a retrospective analysis, we compared the results with the standards reported worldwide (Table 4).

Table 4: Complications of ilioinguinal lymphadenectomy series.

Criteria	Johnson and Lo	Ravi et al	Ornellas et al	Bevan Thomson et al	Cancer institute Adayar	Present series
Nodal dissection	101	405	200	106	108	15
Period	1948-1983	1962-1990	1972-1987	1972-1987	2006-2009	2015-2017
Percentage skin necrosis	50	62	45	8	12	6.7
Percentage wound infection	14	17	15	10	9	6.7
Perioperative deaths in percentage	0	1.3	Not mentioned	1.8	1.8	0

We found that our complications were lesser than the historical standards reported including Johnson and Lo et al, Ravi et al and Ornello et al. The complication rate is comparable and if not lower than the newer contemporary series of late reported including Thomas B et al and Cancer Institute Adayar. The complication rates of present series in terms of percentage of skin edge necrosis, wound infection rates and perioperative mortality rate are very much acceptable, implicating the acceptable standard of the simultaneous surgeries for nodes and primary in carcinoma penis in a tertiary rural medical college centre like ours.

DISCUSSION

In carcinoma penis, the single most important prognostic factor with regards to survival would be the status of the inguinal and pelvic nodes.[3] Involvement of more than three inguinal nodes, perinodal spread and pelvic nodal involvement are the adverse prognostic factors correlating with overall and disease-free survival. The predicted 5-year survival of carcinoma penis with various inguinal nodes status is as follows. 70-100% in node negative histology, 60% with nodal involvement resected, 77% with minimal nodal involvement, 25% with multiple nodal involvement and 0% among unresectable nodes.[4] Early lymphadenectomy has been supported by multiple studies. Fraley et al, noted 75% 5-year disease free survival in patients with node positive disease undergoing immediate lymphadenectomy versus 8% in those who received delayed surveillance.[5] The fear of morbidity, lack of experience are main reasons for reluctance to proceed with prophylactic lymphadenectomy, keeping in mind the morbidity associated with the procedure has historically been severe.[6,7] However, multiple contemporary series have demonstrated the acceptable morbidity with these procedures.

At our Institution, we advocate complete ilioinguinal nodal dissection for all fine needle aspiration cytology proven penile cancers. We advocate all patients with high and intermediate grade carcinoma, all clinically T2 lesions and above to undergo prophylactic bilateral lymphadenectomy in clinically node negative tumours. Frozen section is routinely done and in case nodes are found to be positive for carcinoma, complete ilioinguinal block dissection on the affected side alone and superficial block dissection on the contra lateral side is done.

Various modifications in the techniques of ilioinguinal nodal dissection have come following the early reports of penectomy and simultaneous bilateral ilioinguinal lymph nodal dissection for carcinoma of the penis which enumerated many complications. This resulted in staging of the procedure such that the primary tumour was removed first and lymphadenectomy was performed some weeks later.[8,9] The various reasons quoted for delaying ilioinguinal lymph nodal dissection were to provide time for metastatic cells to embolize from the primary tumour to the lymph nodes, avoiding the potential of lymph nodal metastasis in the tract between the primary and the nodes; and to provide antibiotic treatment for 6 to 12 weeks, so that enlarged inflammatory nodes can regress, possibly avoiding unnecessary ilioinguinal dissection and decreasing the risk of wound infection.[9]

Available literature on the topic of simultaneous ilioinguinal nodal dissections have usually been small numbered (less than 20 patients) or retrospective observations. The limitations of the present study are not a systematic randomized prospective study, but only a retrospective analysis. The hospital stays, duration of drains, wound morbidity in terms of wound infections, flap necrosis, flap loss, wound breakdowns and long-term complications like limb, scrotal oedema and neurological sequlae were analysed. We believe that smaller operative fields and thick vascular flaps in prophylactic nodal dissections and generous use of well vascularized muscle flaps in therapeutic nodal dissection decrease skin edge necrosis leading to early and better wound healing. Doing simultaneous surgery for the primary and the nodal basin is very much feasible and safe as well.

CONCLUSION

Simultaneous surgery for primary and nodes in carcinoma penis can be safely performed in resource poor rural tertiary medical centres with acceptable morbidity and long-term complications. Simultaneous lymphadenectomy at the time of penile surgery can be done in both the prophylactic and therapeutic setting.

ACKNOWLEDGMENTS

Authors would like to acknowledge Cancer Institute Adayar, Chennai.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the institutional ethics committee

REFERENCES

1. Horenblas S, Graafland NM. Lymph nodal status as a prognostic factor in carcinoma penis. Eu Urol Review. 2009;4(1):31-4.
2. Nelson BA, Cookson MS, Smith JA, Chanc SS. Department of Urologic surgery, Vanderbilt University Medical centre, Nashville, Tenesse. J Urol. 2004;172: 494-97.
3. Spratt J. Review article on Groin dissection. J Surg Oncol. 2000;73:243-62.
4. McDougal WS. Carcinoma of the penis: improved survival by early regional lymphadenectomy based on the histological grade and depth of invasion of the primary lesion. J Urol. 1995;154:1364.
5. Fraley EE, Vhang G, Manivel C, Niehans GA. The role of ilioinguinal lymphadenectomy and the

significance of histological differentiation in treatment of carcinoma of the penis. J Urol. 1989;142:1478.
6. Johnson DE, Lo RK. Management of regional lymph nodes in penile carcinoma: five-year results following therapeutic groin dissections. Urol. 1984;24:308.
7. Skinner DG, Leadbetter WF, Kelley SB. The surgical management of squamous cell carcinoma of the penis. J Urol. 1972;107:273.
8. Crawford Ed, Daneshgari F. Management of regional lymphatic drainage in carcinoma of the penis. Urol Clin North Am. 1992;19:305-17.
9. Horenblas S. Lymphadenectomy for squamous cell carcinoma of the penis. Part 2: the role and technique of lymph node dissection. BJU Int. 2001;88:473-83.

Cite this article as: Kumar SAC, Rajesh S. Simultaneous surgery for primary and nodes in carcinoma penis: a rural tertiary medical centre experience and results. Int Surg J 2017;4:3466-9.