Abstract:
Penile tumors are aggressive cancers with the pattern of dissemination predominantly lymphogenic. Nodal metastasis can present years after the treatment of the primary. Palliative resection of the nodes with adequate flap reconstruction in these situations improve the quality of life and help avoid the associated complications. A treated case of carcinoma penis presented with delayed nodal metastasis in the left inguinal region after a period of four years. Wide excision of the nodal mass and coverage of the defect with ipsilateral anterolateral thigh flap was performed with the help of plastic surgeon's assistance. Neoadjuvant chemotherapy can be utilised to shrink the nodal mass but carries the theoretical risk of causing femoral vessel blowout secondarily due to necrosis of the previously weakened vessel wall.

Keyword: carcinoma penis, nodal metastasis, anterolateral thigh flap, femoral blow out

INTRODUCTION:
Penile tumors are aggressive cancers characterized by a relentless progressive course, causing death for the majority of untreated patients within 2 years and successful curative treatment can be achieved only at an early stage. More than 95% penile neoplasms are squamous cell carcinomas (SCC). The pattern of dissemination is predominantly lymphogenic, the first draining lymph nodes are in the inguinal region while the secondary regional nodes are located in the pelvic region. Patients with proven inguinal metastasis should undergo an inguinal lymph node dissection. However, the management of clinically node negative patients remains subject of debate. Nodal metastasis can present years after the treatment of the primary. Palliative resection of the nodes with adequate flap reconstruction in these situations improve the quality of life and help avoid the dreadful complication of femoral vessel blowout.
We here present a treated case of carcinoma penis with delayed nodal metastasis treated with palliative resection of the nodal mass and coverage of the defect with ipsilateral anterolateral thigh flap (ALT)

CASE REPORT:

A 82 year male patient, a known case of carcinoma penis (Stage T2N0M0) had earlier undergone total penile amputation with creation of perineal urethrostomy without inguinal block dissection in 2008 (Biopsy – Well differentiated SCC) presented to us with painless nodal mass in the left inguinal region for 4 months duration, gradually increasing in size. Patient gave history of urological consultation for the problem elsewhere where he was performed fine needle aspiration biopsy (FNAB) reported as metastatic squamous cell carcinoma and subsequently referred to a radiotherapy (RT) center where he underwent six sittings of palliative RT. The nodal mass remained static when he presented to our hospital. On examination, abdomen was normal, previous operated and perineal urethrostomy sites were healthy, there was a nodal mass of size 10 x 6 cms in the left inguinal region; hard and fixed with inflammation of the overlying skin. Femoral artery could be palpated below the nodal mass. No other enlarged nodes palpated. All investigations including serum calcium were normal. Metastatic workup was normal. Computed Tomography (CECT) revealed heterodense left inguinal nodal mass with clear margins with femoral artery; Femoral vein margins could not be well defined. No other nodal enlargement were noted. Plastic and vascular surgeons’ consultation were obtained and the patient was planned for excision of the nodal mass with anterolateral thigh flap cover (ALT).

Operative Procedure:

Procedure was a multidisciplinary approach with the assistance of plastic and vascular surgeons. Preoperatively the perforators were located with the hand held Doppler probe and marked on the skin. Flaps marking were done after assessment of the defect. Medial incision was taken first, deep fascia was identified, and septum between rectus femoris and Vastus lateralis was identified.
and the vascular pedicle was located. The incision of the flap was subsequently completed and flap was elevated from distal portion along with that portion of Vastus lateralis muscle through which traverses the musculocutaneous perforators. While dissecting the pedicle, motor nerve branches to the quadriceps muscles were carefully preserved. Wide excision of the nodal mass was done. The flap was completely islanded and tunneled beneath the fascial septa below the rectus femoris and placed into the defect. Raw area over the flap site was covered with split skin graft. Patient was started on Low molecular weight heparin (LMWH) in the post operative period and the course was uneventful. Histopathology of the excised mass revealed squamous cell carcinoma with capsular infiltration. Medical oncologist opinion obtained and the patient was started on cisplatin based chemotherapy. The patient is doing well and the flap has settled well in the six months follow up period.

FIG.4 -- Marking of the nodal wide excision margin and flap outline

FIG.5-- Harvesting the anterolateral thigh flap FIG.6 -- Completed Anterolateral thigh flap
DISCUSSION:
Squamous cell carcinoma remains the most common tumor of penis. Majority of nodal metastasis occur within first two years involving the inguinal and pelvic nodes. Late nodal metastasis occur in 10 – 20% of cases. The possible complications if left untreated include Skin necrosis and ulceration, chronic infection, and death from inanition, sepsis, or hemorrhage secondary to erosion into the femoral vessels. Palliative resection of the nodal mass is necessary in these situations to avoid the above mentioned complications. Both the femoral venous and arterial blowout have been reported. Although no statistical data available, veins being thin walled as compared to the arteries are more prone to blow out. Arterial blowout can be more catastrophic due to torrential bleeding. Which structure blows out obviously depend on the area of invasion by the tumour. If the femoral vessels are adherent, then the tumour should be shaved off the vessels or if needed resected en bloc with the specimen and a graft substituted to maintain vascular continuity. Presence of local infection is the most important criteria leading to...
blow out. Poor general condition and nutritional status of the patient add to it. Improvising on the nutritional status of the patient and control of infection are important in the management of fungating nodal mass with propensity to blow out. For patients with palpable lymph nodes and especially with large, immobile inguinal nodal metastases, recent studies have shown promising results for neoadjuvant chemotherapy followed by surgical node dissection. Neoadjuvant chemotherapy with different regimens (vincristine / bleomycin / methotrexate, cisplatinum / bleomycin / methotrexate, cisplatinum /5-FU or cisplatinum / irinotecan) were reported to show good long-term survival after subsequent resection of the inguinal lymph node metastases. The problems remaining are those of the high toxicity of standard chemotherapy protocols and a high number of non responders. Data about the relative rate of complications in patients undergoing inguinal lymphadenectomy with or without neoadjuvant chemotherapy are also lacking. Recently Femoral venous blowout have been reported in patients who were started on neoadjuvant chemotherapy to shrink the nodal mass. Theoretical risk in these cases are secondarily due to necrosis in prior weakned vessel wall. Fusgating inguinal lymph nodes often require excision of skin and the resulting defect cannot be closed primarily. Adequate and durable coverage of these defects is extremely important to prevent the exposure of femoral vessels which may lead to life threatening blow-outs. Commonly used flaps for groin defect coverage are Tensor fascia lata, Gracilis, Rectus Abdominis, Anterolateral thigh flap, Rectus Femoris & Sartorius muscle flaps. The requirements of the recipient site dictate the choice of flaps in a particular case. We have utilised musculocutaneous anterolateral thigh flap to cover the defect. Since Song et al. reported the use of Anterolateral thigh flap (ALT flap) in 1984, this flap has been widely used in reconstructive procedures. Vascular supply is based on descending branch of lateral circumflex femoral vessel. This can be raised as an ultra thin perforator flap, thin fasciocutaneous flap, thick myocutaneous flap or may be combined with other flaps of the region to suit the requirements. Advantages of using anterolateral thigh flaps include · The pedicle is long and possesses large caliber vessels. · The size, shape and volume can be adjusted. · The property of the flap is supple. Skin territory of the flap is very wide & large and flaps measuring 25 x 18 cm. can survive with only one perforator. The flap can also be combined with other local flaps and free flaps. · Primary closure of donor site is possible when the width is < 8 cm Disadvantages with the ALT flap include · Technically more demanding · The variability in position of perforators. Need for skin grafting for donor site closure in some cases of large flaps. The donor site defect following the harvest of the flap was large in our case and it required placement of split skin graft taken from the contralateral thigh.

CONCLUSION:

Nodal metastasis can occur even after several years of treatment of the primary tumour of the penis. Although curative resection is not possible, palliative resection of the nodal mass is advocated to avoid the complications of skin ulceration, fungation and dreadful femoral vessel erosion. All patients with fungating inguinal nodes, those with persistent infection are at a high risk of blowout and must be managed aggressively with palliative resection and adequate flap coverage. Anterolateral thigh flap is an attractive and
reliable tool for reconstruction of complex groin defects. Technically the ALT myocutaneous flap is easy to harvest and meets the recipient site requirements adequately.

REFERENCES:


