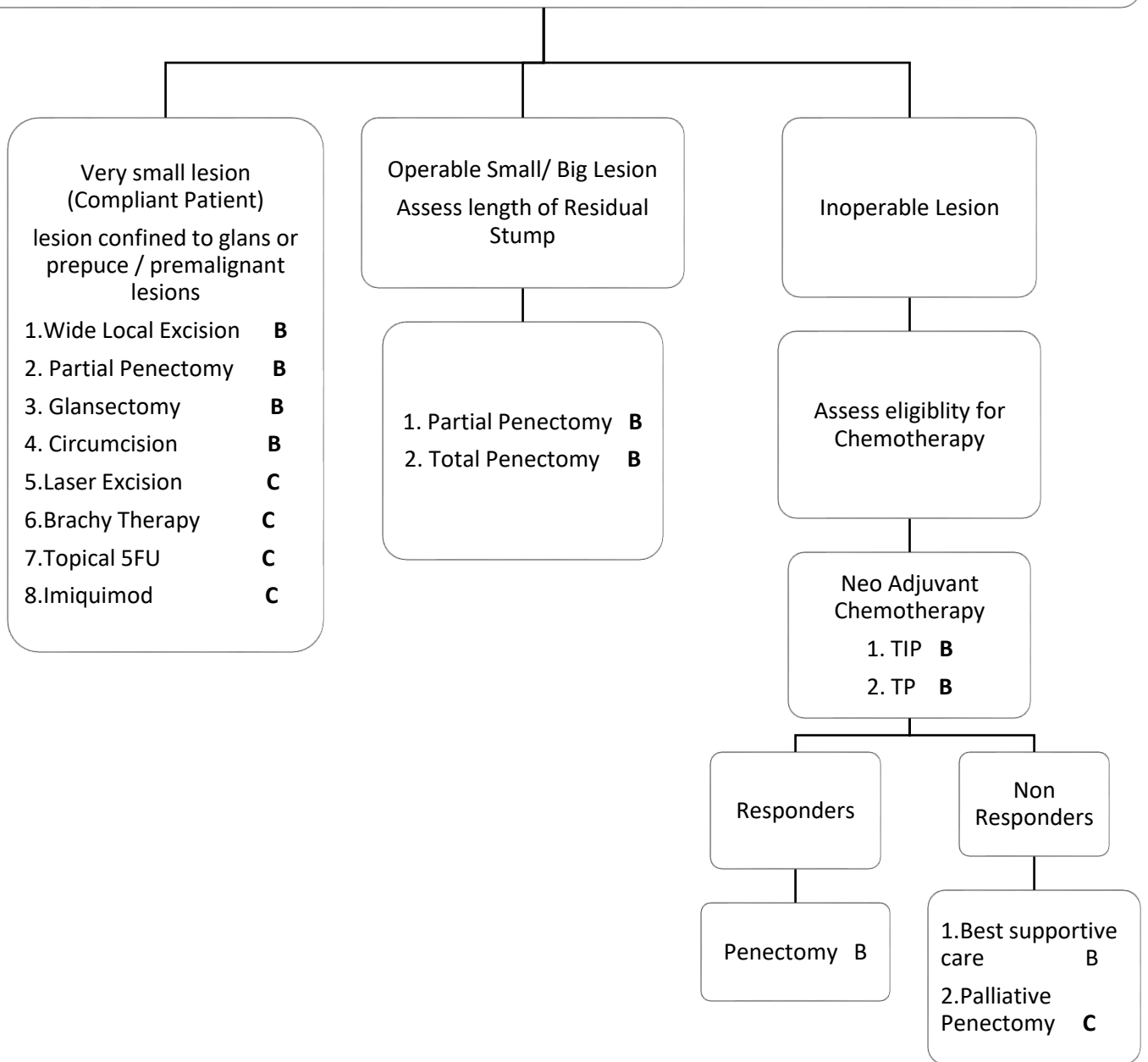


Management of Penile Lesion



Management of N0 Groin

Risk Stratification based on Primary **A**

Low Risk
Tis, Ta, T₁G₁

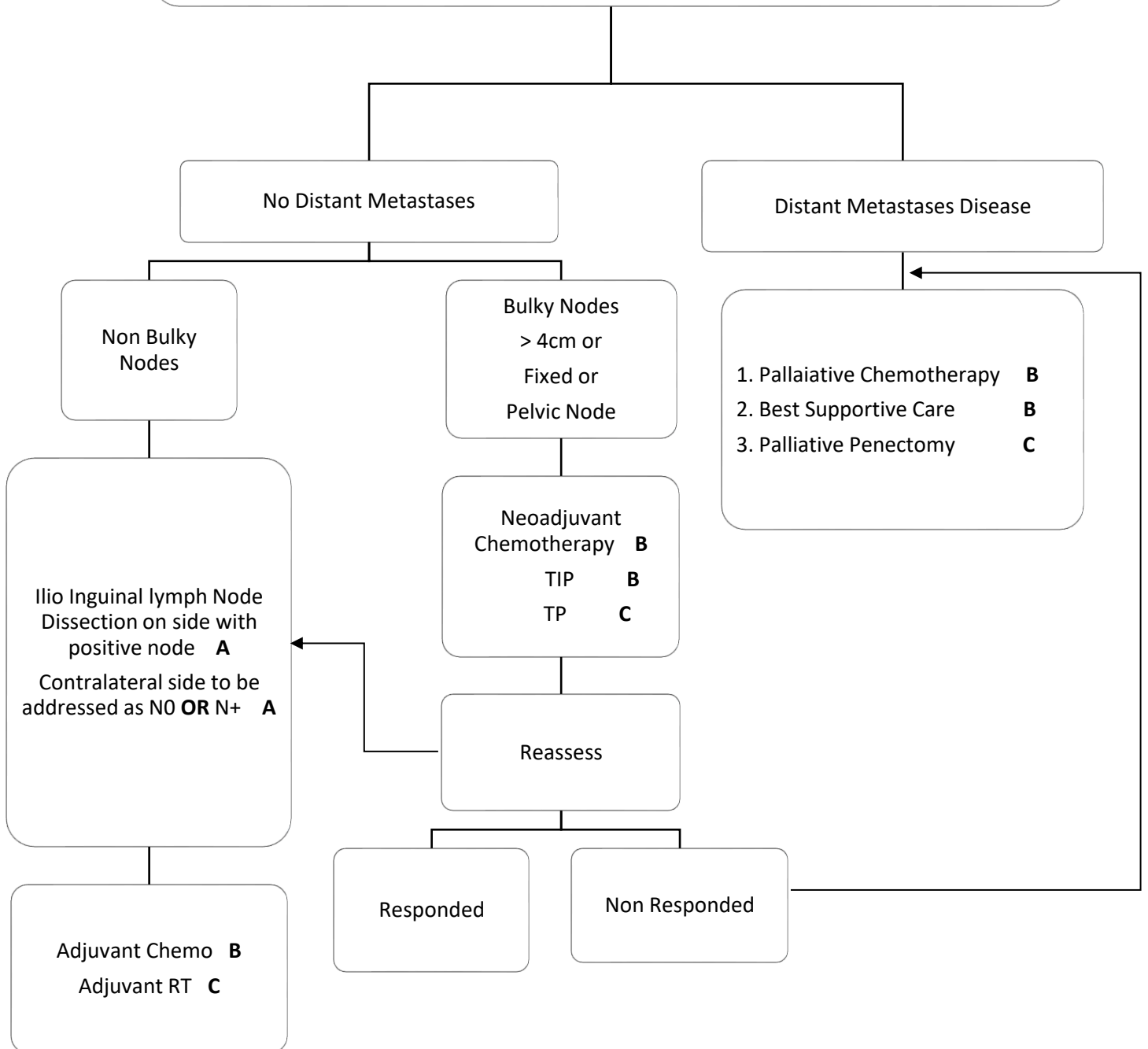
Intermediate Risk
T₁G₂
NO LVI

High Risk
>T₁G₂
LV2+

Surveillance if
Compliance Reliable
(B)

- | | |
|---|----------|
| 1. Groins to be surgically addressed | A |
| 2. Modified Inguinal LND and Frozen Section Analysis | B |
| 3. Complete Inguinal LND in Absence of FS | B |
| 4. Dynamic Sentinel Lymph Node Dissection | C |
| 5. Address pelvic nodes if ≥2 inguinal nodes involved on FS OR on histopathology | B |
| 6. If pN ₂ /N ₃ , | |
| Advant Chemotherapy | B |
| Adjuvant Radiotherapy | C |

Management of Node Positive Groin (Clinical / Radiological / FNAC+)



SUGGESTED REFERECES:

1. Nordenvall C, Chang ET, Adami HO, et al. Cancer risk among patients with condylomata acuminata. *Int J Cancer* 2006 Aug;119(4):888-93.
2. Philippou P, Shabbir M, Ralph DJ, et al. Genital lichen sclerosus/balanitis xerotica obliterans in men with penile carcinoma: a critical analysis. *BJU Int* 2013 May;111(6):970-6.
3. D'Hauwers KW, Depuydt CE, Bogers JJ, et al. Human papillomavirus, lichen sclerosus and penile cancer: a study in Belgium. *Vaccine* 2012 Oct;30(46):6573-7.
4. Muñoz N, Castelisague X, de Gonzalez AB, et al. HPV in the etiology of human cancer. *Vaccine* 2006 Aug;24(Suppl 3):S3/1-10.
5. Velazquez EF, Barreto JE, Rodriguez I, et al. Limitations in the interpretation of biopsies in patients with penile squamous cell carcinoma. *Int J Surg Pathol* 2004 Apr;12(2):139-46
6. Zhu Y, Zhang SL, Ye DW, et al. Predicting pelvic lymph node metastases in penile cancer patients: a comparison of computed tomography, Cloquet's node, and disease burden of inguinal lymph nodes. *Onkologie* 2008 Feb;31(1-2):37-41.
7. Schlenker B, Scher B, Tiling R, et al. Detection of inguinal lymph node involvement in penile squamous cell carcinoma by 18F-fluorodeoxyglucose PET/CT: a prospective single-center study. *Urol Oncol* 2012 Jan-Feb;30(1):55-9.
8. Mueller-Lisse UG, Scher B, Scherr MK, et al. Functional imaging in penile cancer: PET/computed tomography, MRI, and sentinel lymph node biopsy. *Curr Opin Urol* 2008 Jan;18(1):105-10.
9. Kayes O, Minhas S, Allen C, Harc C, Freeman A, Ralph D. The role of magnetic resonance imaging in the local staging of penile cancer. *Eur Urol* 2007;51(5):1313-8
10. Saisorn I, Lawrentschut N, Leewansangtong S, et al. Fine-needle aspiration cytology predicts inguinal lymph node metastases without antibiotic pretreatment in penile carcinoma. *BJU Int* 2006 Jun;97(6):1225-8.
11. Frimberger D, Hungerhuber E, Zaak D, et al. Penile carcinoma. Is Nd:YAG laser therapy radical enough? *J Urol* 2002 Dec;168(6):2418-21;discussion 2421
12. Meijer RP, Boon TA, van Venrooij GE, et al. Long-term follow-up after laser therapy for penile carcinoma. *Urology* 2007 Apr;69(4):759-62.
13. Schlenker B, Tilki D, Seitz M, et al. Organ-preserving neodymium-yttrium-aluminium-garnet laser therapy for penile carcinoma: a long-term follow-up. *BJU Int* 2010 Sep;106(6):786-90.
14. Bandieramonte G, Colecchia M, Mariani L, et al. Penoscopically controlled CO2 laser excision for conservative treatment of in situ and T1 penile carcinoma: report on 224 patients. *Eur Urol* 2008 Oct;54(4):875-82.
15. Shindel AW, Mann MW, Lev RY, et al. Mohs micrographic surgery for penile cancer: management and long-term followup. *J Urol* 2007 Nov;178(5):1980-5.
16. Hadway P, Corbishley CM, Watkin NA. Total glans resurfacing for premalignant lesions of the penis: initial outcome data. *BJU Int* 2006 Sep;98(3):532-6

17. Ayres BE, Lam W, Al-Najjar HM, et al. Glans resurfacing - a new penile preserving option for superficially invasive penile cancer. *Eur Urol Suppl* 2011;10(2):340, abstract 106.
18. Shabbir M, Muneer A, Kalsi J, et al. Glans resurfacing for the treatment of carcinoma in situ of the penis: surgical technique and outcomes. *Eur Urol* 2011 Jan;59(1):142-7
19. Li J, Zhu Y, Zhang SL, et al. Organ-sparing surgery for penile cancer: complications and outcomes. *Urology* 2011;78(5):1121-4.
20. Crook J, Jezioranski J, Cygler JE. Penile brachytherapy: technical aspects and postimplant issues. *Brachytherapy* 2010 Apr-Jun 9(2):151-8.
21. Crook J, Ma C, Grimard L. Radiation therapy in the management of the primary penile tumor: an update. *World J Urol* 2009;27:189-196
22. Crevoisier R de, Slimane K, Sanfilippo N, et al. Long-term results of brachytherapy for carcinoma of the penis confined to the glans (N- or NX). *Int J Radiat Oncol Biol Phys* 2009;74(4):1150-6.
23. Goette DK, Carson TE. Erythroplasia of Queyrat: treatment with topical 5-fluorouracil. *Cancer* 1976;38(4):1498-502
24. Taliaferro SJ, Cohen GF. Bowen's disease of the penis treated with topical imiquimod 5% cream. *J Drugs Dermatol* 2008; 7(5):483-5
25. Paoli J, Ternesten Bratel A, Löwhagen GB, Stenquist B, Forslund O, Wennberg AM. Penile intraepithelial neoplasia: results of photodynamic therapy. *Acta Derm Venereol* 2006;86(5):418-21
26. Lijte JA, Kerst JM, Bais E, Antonini N, Horenblas S. Neoadjuvant chemotherapy in advanced penile carcinoma. *Eur Urol* 2007;52(2):488-94
27. Khezri AA, Dunn M, Smith PJ, et al. Carcinoma of the penis. *Br J Urol* 1978 Jun;50(4):275-9.
28. Philippou P, Shabbir M, Malone P, et al. Conservative surgery for squamous cell carcinoma of the penis: resection margins and long-term oncological control. *J Urol* 2012 Sep;188(3):803-8.
29. Ornellas AA, Kinchin EW, Nóbrega BL, et al. Surgical treatment of invasive squamous cell carcinoma of the penis: Brazilian National Cancer Institute long-term experience. *J Surg Oncol* 2008;97(6):487-95.
30. Barmejo C, Busby JK, Spiess PE, et al. Neoadjuvant chemotherapy followed by aggressive surgical consolidation for metastatic penile squamous cell carcinoma. *J Urol* 2007 Apr;177(4):1335-8.
31. Lughezzani G, Catanzaro M, Torelli T, et al. The relationship between characteristics of inguinal lymph nodes and pelvic lymph-node involvement in penile squamous cell carcinoma: a single-institutional experience. *J Urol* 2013 Nov.
32. Daseler EH, Anson BJ, Reimann AF. Radical excision of inguinal and iliac lymph glands: a study based upon 450 anatomical dissections and upon supportive clinical observations. *Surg Gynecol Obstet* 1948 Dec;87(6):679-94
33. Horenblas S. Lymphadenectomy for squamous cell carcinoma of the penis. Part 2: the role and technique of lymph node dissection. *BJU Int* 2001 Sep;88(5):473-83.

34. Zhu Y, Zhang HL, Yao XD, et al. Development and evaluation of a nomogram to predict inguinal lymph node metastasis in patients with penile cancer and clinically negative lymph nodes. *J Urol* 2010 Aug;184(2):539-45.
35. Graafland NM, Lam W, Leijte JA, et al. Prognostic factors for occult inguinal lymph node involvement in penile carcinoma and assessment of the high-risk EAU subgroup: a two-institution analysis of 342 clinically node-negative patients. *Eur Urol* 2010 Nov;58(5):742-7.
36. Hughes BE, Leijte JAP, Kroon BK, et al. Lymph node metastasis in intermediate-risk penile squamous cell cancer: a two-centre experience. *Eur Urol* 2010 Apr;57(4):688-92.
37. Leijte JA, Hughes B, Graafland NM, et al. Two-center evaluation of dynamic sentinel node biopsy for squamous cell carcinoma of the penis. *J Clin Oncol* 2009 Jul;27(20):3325-9.
38. Lam W, Alnajjar HM, La-Touche S, et al. Dynamic sentinel lymph node biopsy in patients with invasive squamous cell carcinoma of the penis: a prospective study of the long-term outcome of 500 inguinal basins assessed at a single institution. *Eur Urol* 2013 Apr;63(4):657-63.
39. Neto AS, Tobias-Machado M, Ficarra V, et al. Dynamic sentinel node biopsy for inguinal lymph node staging in patients with penile cancer: a systematic review and cumulative analysis of the literature. *Ann Surg Oncol* 2011 Jul;18(7):2026-34