PENILE CANCER: A STUDY OF 9 CASES AT HASAN SADIKIN HOSPITAL BANDUNG BETWEEN JANUARY 2010 AND DECEMBER 2015

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ABSTRACT

Objective: *Objective: Penile cancer are the rarest carcinoma of the genitourinary system that are often devastating for the patient and frequently diagnostically and therapeutically challenging for the Urologist. In view of this, it would be interesting to study the incidence, demographics, presentation, and treatment of the patients. The aim of this study was to report the status of penile cancer at Hasan Sadikin Hospital Bandung.* ***Material & Methods:*** *This was a retrospective study of 9 patients. We study the incidence, demographics, presentation, and treatment of the patients at Hasan Sadikin Hospital Bandung between January 2010 and December 2015.* ***Results:*** *The mean age of the patients was 50.44 ± 12.09 years old. All patients had squamous cell carcinoma. Five patients underwent partial penectomy, 4 patients underwent total penectomy and perineostomy for urinary diversion. Four patients had lymph node localization. A Superficial lymph node dissection was performed in two patients. One of our patient was referred to hemato-oncologist for chemotherapy.* ***Conclusion:*** *Penile cancer seems rare in our hospital. General public should be educated about genital hygiene and early circumcision in male infant as a prophylactic measure. An understanding of the various operative procedures for treatment of the primary tumor and regional lymph nodes is therefore critical in the successful management of this condition.*

Key words: *Penile cancer, penectomy, treatment.*

ABSTRAK

Tujuan: *Kanker penis adalah karsinoma paling jarang pada sistem genitourinari yang secara diagnostik dan terapeutik menjadi tantangan bagi ahli urologi karena hal ini merupakan penyakit yang mengganggu bagi pasien. Maka dari itu, akan menarik untuk mempelajari kejadian, demografi, presentasi, dan perawatan pasien kanker penis. Penelitian ini bertujuan untuk mendapatkan status kanker penis di RSUP Hasan Sadikin Bandung.* ***Bahan & Cara:*** *Studi yang kami lakukan adalah penelitian retrospektif dari 9 pasien. Kami mempelajari kejadian, demografi, presentasi, dan perawatan pasien di RSUP Hasan Sadikin Bandung antara Januari 2010 dan Desember 2015.* ***Hasil:*** *Kami dapatkan rerata usia pasien adalah 50.44 ± 12.09 tahun. Semua pasien mengalami karsinoma sel skuamosa. Lima pasien menjalani parsial penektomi, 4 pasien menjalani penektomi total dan perineostomi untuk diversi urin. Empat pasien memiliki lokalisasi kelenjar getah bening. Diseksi kelenjar getah bening superfisial dilakukan pada dua pasien. Salah satu pasien mendapatkan kemoterapi.* ***Simpulan:*** *Kanker penis merupakan kasus yang cukup langka di rumah sakit kami. Masyarakat umum harus diedukasi tentang kebersihan kelamin laki-laki dan sirkumsisi dini pada bayi sebagai tindakan profilaksis. Pemahaman tentang prosedur operasi tumor primer dan kelenjar getah bening regional penting untuk manajemen kondisi ini.*

Kata kunci: *Kanker penis, penektomi, pengobatan.*

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INTRODUCTION

Penile cancer are uncommon tumors that are often devastating for the patient and frequently diagnostically and therapeutically challenging for the Urologist. Penile cancer is mostly a squamous cell carcinoma (SCC) but other types of carcinoma exist as well. The incidence of penile cancer increase with age, with an age peak during the sixth decade of life.[1-4]

Several risk factors for penile cancer have been identified by a review of the literature. One of the most important risk factor for developing penile cancer is the Human Papiloma Virus (HPV). It seems

that neonatal circumcision reduces the incidence of penile cancer in countries and cultures where this is routinely practiced. Schoen and Colleagues evaluated the relationship between newborn circumcision and invasive penile cancer among adult man who were members of a large health maintenance organization. Of 89 men with invasive penile cancer whose circumcision status was known, 2 (2.3%) had been circumcised as newborns and 87 were not circumcised. This study confirms the highly protective effect of newborn circumcision against invasive penile cancer.[4,5]

Despite ongoing clinical experience, treatment of squamous cell carcinoma of the penis remain primarily surgical. The surgical management of a malignant penile lesion depends on the grade and stage of the disease. The gold standard treatment for primary penile lesions remains to be total or partial penectomy. An understanding of the various operative procedures for treatment of the primary tumor and regional lymph nodes is therefore critical in the successful management of this condition.[6-9]

OBJECTIVE

The aim of this study was to report the status of penile cancer at Hasan Sadikin Hospital Bandung.

MATERIAL & METHODS

This is a retrospective study of 9 patients at Hasan Sadikin Hospital Bandung between January 2010 and December 2015. Data was obtained from our Medical Records Office. The demoghraphics, presentation, treatment and outcome of the patients were reviewed and discussed.

RESULTS

Patients demographics and presentations were detailed in table 1. The mean age was 50.44

Table 1. Demographics and presentation of 9 patients.

Patient	1	2	3	4	5	6	7	8	9
Age	63	40	51	54	67	43	50	58	28
Cigarette Smoking	Yes	No	Yes	Yes	No	Yes	No	Yes	Yes
Multiple Sex Partner	No	No	Yes	No	No	No	Yes	No	No
Foreskin Status (Circumcised)	Yes	No	No	No	Yes	Yes	No	No	Yes
Location of tumor	Glans, body	body	Glans, body	Glans	Glans, body	Glans	Glans, body	body	Glans
Comorbidity	COPD	-	-	DM	HT	-	HT	DM	-

DM: diabetes mellitus; COPD: Chronic Obstructive Pulmonary Disease; HT: Hypertension.

Table 2. Staging, histology, and treatment of 9 patients.

Patient	1	2	3	4	5	6	7	8	9
Stage	T2NxMx	T2NxMx	T3N0M0	T4N2M0	T3NxMx	T3N2Mx	T3N1M0	T3NxM0	T2N0M0
Histology	SCC penis	Well Differentiated SCC	Well Differentiated SCC	Well Differentiated SCC	Well Differentiated SCC	Well Differentiated SCC	Well Differentiated SCC	Epidermoid Carcinoma Penis	Well Differentiated SCC
Treatment for Primary Tumor	Total Penectomy	Partial Penectomy	Total Penectomy	Total Penectomy	Total Penectomy	Partial Penectomy	Partial Penectomy	Partial Penectomy	Partial Penectomy
Treatment for Lymph Nodes	-	-	-	Superficial Lymph Node Dissection	-	Superficial Lymph Node Dissection	-	-	-
Urinary Diversion	Perineostomy	-		Perineostomy	Perineostomy	-	-	-	-
Adjuvant therapy	-	-	-	Cisplatin, 5-FU	-	-	-	-	-

SCC: Squamous cell carcinoma

years (28-67 years). Six (66.67%) of nine patients were cigarette smokers. Two patients had a history of multiple sexual partner. Five patients were uncircumcised.

DISCUSSION

The average age of cancer diagnosis in our study (50.44 years) is consistent with the literature: penile cancer is typically a disease of middle-aged to older men, most commonly affecting those between 50 and 70 years of age. Younger individuals are also affected, approximately 22% of patients are less than 40 years and 7% were younger than 30 years; the disease has also been reported in children.[5,7,9,10]

Penile cancer accounts for 10% of malignant neoplasm in men in some Asian, African, and South American countries. However, reports suggest that the incidence of penile cancer is decreasing in many countries, including Asian countries. The reasons are unclear but may be related in part to increased attention to personal hygiene.[3,9]

Penile cancer usually presents with a visible or palpable lesion on the penis. It can also be associated with pain, discharge, bleeding, or foul odor. The location was most often distal (glans) according to what is described.[5,10]

Penile cancer is most frequent in uncircumcised males than in those circumcised in infancy. In this study we found five (55.55%) of nine patients were uncircumcised. This result is closed to the several study. For example, in India non-Jewish versus Jewish population in the West and Non-Muslim versus Muslim population. Circumcision at birth however, does not always protect an individual from developing penile cancer. Also circumcision beyond infancy is also not protective against the development of penile cancer. In the United States, the risk of this disease in uncircumcised men and approaches the rate seen in some underdeveloped nations. Maden et al., reported a study of 110 men with penile cancer and 355 control subjects. The risk of penile cancer was 3.2 times greater among uncircumcised men compared with men circumcised at birth and 3.0 times greater among those who had been circumcised after neonatal period. The protective effect of circumcision is likely due to the lack of accumulation of smegma that forms from desquamated epithelial cells. The protective effect of circumcision is diminished when performed later in life as evidenced by the higher incidence of penile carcinoma among Muslim men compared with Jewish men. Poor hygiene also contributes to the development of penile carcinoma through accumulation of smegma and other irritants. In populations that practice good hygiene but are uncircumcised, the incidence of penile carcinoma approaches that of circumcised populations.[5,11,12]

A further risk factor suggested by epidemiological studies is cigarette smoking, which is associated with a 4.5-fold increase risk. In our hospital, six (66.67%) patients were active smoker for more than 20 years. We believe that cigarette smoking is important risk factor for developing penile cancer.[5,13]

One of the most important risk factor for developing penile cancer is the human papilloma virus infection. Up to 42% penile cancer are HPV positive, and HPV infections are, in turn, directly related to the number of lifetime sexual partners. The mechanism by which HPV leads to malignant transformation is likely mediated through two viral genes, E6 and E7, which are actively transcribed in HPV infected cells. The E6 and E7 proteins bind to and inactivate the host cells tumor suppressor gene products p53 and pRb (retinoblastoma gene), both of which are known negative regulators of cellular proliferation leading to uncontrolled growth. In our hospital, only 2 (22.22%) patients had multiple sexual partner.[5,13]

Two staging systems are used in penile cancer: the Jackson classification and the TNM classification. We staged the penile squamous cell carcinomas according to the seventh edition of the American Joint Committee on Cancer NM Cancer Staging Manual. Accurate staging of the primary lesion is important in making treatment decisions and prognosticates the risk of associated lymph node metastases. Physical examination has been shown to be accurate in determining the likelihood of corpus cavernosum incasion. However, surgical amputation of the primary tumour remains the oncologic gold standard for definitive treatment of penile tumours. Organ sparing or glans-sparing procedures can be considered for early stage Tis, Ta and T1 tumours with good histology. These techniques include limited excision with or without circumcision, Mohs micrographic surgery, laser ablation and radiotherapy, with the aim of preservation of penile length and sensation. In our study, experience with the other techniques was limited, so contemporary penectomy was performed in all SCC cases.[14-16]

Penile cancer involving the glans and the distal shaft are best managed by partial penectomy

excising 1.5 to 2 cm of normal tissue proximal to the margin of the tumor. This should leave a 2.5 to 3-cm stump of penis to allow directable micturition in a standing posture, with some coital function as well. Agrawal et al.,evaluated the possibility of reducing the margin of clearance at surgery for penile cancer without causing an increase in the incidence of local tumor recurrence in order to minimize the functional and cosmetic compromise associated with penectomy.[5,17]

For bulky T3 or T4 proximal tumors involving the base of the penis, total penectomy with perineal urethrotomy is done. These proximal tumors are often advanced and associated with regional metastatic disease. After 4-6 weeks of oral antibiotics following treatment of the primary lesion, the patient is reevaluated for the presence of palpable regional lymphadenopathy. The presence of palpable inguinal lymph nodes at the time of diagnosis may be due to inflammatory reaction or metastatic disease. Only 50% of patients presenting with palpable lymphadenopathy actually have metastatic disease, the remainder having lymph node enlargement secondary to inflammation. The development of new adenopathy during follow-up is more likely due to tumor in 70% of cases. In patients with unilateral nodal recurrence during the follow-up, bilateral lymph node dissection should be done. In these cases, the probability of occult contralateral involvement is 60-79% of cases due to crossover lymphatics at the base of the penis. Metastasis to the pelvic nodes in the absence of inguinal node metastasis is a rare event and has not been observed in many modern series.In the setting of negative superficial and deep inguinal lymphadenec- tomies and a negative pelvic computed tomography scan, pelvic lymphadenectomy is not required.[18-20]

One of our patient was referred to hemato-oncologist for chemotherapy after surgery (adjuvant). He had 6 cycles of cisplatin and 5-fluorouracil. Cisplatin and 5-FU had been using since 1991 with lower toxicity and even better results compared to VBM (vincristine, bleomycin, and methotrexate). A recent retrospective study of individual patient data of 140 men with advanced penile SCC reported that cisplatin-based regimens had better outcomes than non-cisplatin based regimens.[3,4]

CONCLUSION

Penile cancer seems rare in our hospital. Penile cancer is a preventable disease. The custom of early circumcision in male infant must be adopted as a prophylactic measure, particularly in those with phymosis. General public should be educated about genital hygiene. Penile cancer continuous to be a devastating disease. The low incidence of penile cancer in the general population remains a real obstacle to the publication of consistent series of patients likely to generate well codified therapeutic management. The patient often presents late and the primary tumor is commonly treated by a disfiguring penile amputation. Accurate treatment and staging of the primary lesion is important to aid in predicting the status of the regional lymph nodes. Accurate staging and appropriate management of the inguinal lymph nodes remain a challenge that has important prognostic implications.

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