An unusual coexistence of primary urethral carcinoma and para-testicular lipoma
Banushree C Srinivasamurthy MD, DNB
Department of Pathology, Vinayaga Mission Medical College, Karaikal

1. Introduction
Primary urethral carcinomas are rare tumors in both males and females. Though previous review [1] mentioned about female preponderance mainly due to adeno-carcinomas that arise mostly in urethral diverticula, recent review by Swatrz MA et al [2] showed increase in males for reasons not fully elucidated. The annual age-adjusted incidence rate estimated by them was 4.3 & 1.5 per million in males and females respectively. They also showed that majority of them are transitional type usually in posterior bulbo-membranous urethra, but also in anterior urethra. Previous trauma (strictures) or infections (gonorrhea) have been considered to predispose to urethral carcinoma [3]. We present a seventy-year old who presented with penile enlargement, right inguinal lymphadenopathy and small paratesticular nodular lesion and subsequently underwent total amputation of penis and bilateral orchidectomy.

2. Case report
Seventy-year-old male presented with penile enlargement and bloody discharge per urethra for the past one month. Right inguinal lymphadenopathy was present and aspiration cytology from the node showed metastatic squamous cell carcinoma. The patient also had a nodular lesion along the right testis and possibility of metastasis was considered. The patient underwent total amputation of penis with perineal urethrostomy and bilateral orchidectomy.

Gross examination revealed enlarged penis with normal appearing skin. Cut sections showed fungating grey white mass involving the urethra and infiltrating the muscle. Right testis measured and appeared normal. Left testis was atrophic with capsulated mass adjacent to the testis. Cut section of mass showed lobulated, yellow greasy surface.

The sections studied from penile growth showed sheets and cord of epithelial cells with pleomorphism and prominent nucleoli, and showing pseudoglandular pattern at places. Occasional keratin pearls were also noted. The surgical margin and muscles were infiltrated by tumor cells arranged in sheets and pseudoglandular pattern. No involvement of overlying skin of penis noted.

Atrophic left testis shows hyalinized tubules and peri-tubular fibrosis. Sections from paratesticular mass showed encapsulated tumor composed of lobules of adipocytes separated by fibrous septa.

Hence histopathological diagnosis was that of moderate-to-poorly differentiated squamous cell carcinoma of penile urethra infiltrating the muscles, fascia and the surgical margin with paratesticular lipoma.

3. Discussion
Although penile and urethral epithelia and hence carcinomas arising from them are anatomically and pathologically different, the anterior penile urethral epithelium shows similarities with the penile epithelium which is continuous at the fossa navicularis, the distal saccular expansion of urethra with stratified squamous epithelium [4].

The urethral carcinomas may be misdiagnosed due to their relative rarity and also due to the reason that urethral carcinomas from the penile urethra are commonly of the squamous type. But
penile skin is intact in patients with urethral carcinoma and is a useful differentiating clinical feature. It is important to consider the possibility of urethral carcinoma as the treatment option is different from that of penile carcinoma who usually undergo partial or total amputation of penis. Urethral carcinomas that are local and non-invasive lesions are treated with partial urethrectomy and advanced lesions undergo chemotherapy after local excision and regional lymphadenectomy [5].

Though penile carcinoma can invade vertically into the urethra and urethral carcinoma can extend to the glans, the Buck’s fascia acts initially as a barrier for tumor invasion. But progressive tumor growth can penetrate the fascia and corpora cavernosa resulting in lymphatic metastasis - inguinal, even cross-inguinal metastasis due to rich anastomotic lymphatic channels [3].

The unusual nature of present case is the nature of associated testicular lesion. Lipomas are the most common tumor involving the paratesticular soft tissue and constitute nearly 45 % of paratesticular masses [6]. Paratesticular metastasis is rare and has been reported from primary lesions of prostate and kidney [7].

In our present case, though patient had penile enlargement with intact skin, inguinal node showed features of squamous cell carcinoma. Due to the clinical diagnosis of penile carcinoma and indeterminate nature of a paratesticular lesion, radical surgery was done which in retrospect looks avoidable. If the possibility of urethral carcinoma had been considered and cytology of the testicular lesion had been done, less radical surgery (partial urethrectomy) could have been done with removal of only the scrotal lipoma. This case highlights the need for awareness of possibility of urethral carcinoma even if rare, and also the necessity of tissue confirmation from associated lesions of unusual nature, particularly before planning radical surgery.

Figures & Legends

Figure 1. Cut sections of the gross specimen shows fungating and infiltrative growth involving the penile urethra with normal overlying skin. Adjacent left scrotal section (on right side of image) shows atrophic left testis with paratesticular yellowish capsulated mass showing greasy surface.

Figure 2. Photomicrograph (x 10) of H & E stained section shows sheets and cords of squamous epithelial cells infiltrating the corpora cavernosa with intact overlying penile skin.

Figure 3. Photomicrograph (x 10) of H & E stained section from fungating tumor shows pseudoglandular pattern with acantholysis.
Figure 4. Photomicrograph (x 40) of H & E stained section from fungating tumor shows cords of squamous epithelial cells showing atypical mitosis, pleomorphism, hyperchromatic nuclei and keratinization.

6. References