

## **Buschke–Lowenstein tumor treated with intralesional measles, mumps, and rubella vaccine**

Sir,  
Giant condyloma acuminatum, also known as Buschke–Lowenstein tumor (BLT), is a rare sexually transmitted

disease that affects the anogenital region by human papillomavirus. BLT was first described by Buschke and Löwenstein in 1925. Even though there is huge armamentarium for treating BLT, there is no virus-specific antiviral therapy for them. Hence, the available treatments follow multimodal approach with surgery forming major part of it. Surgical removal of BLT is associated with many complications due to debulking of large lesion.

A 65-year-old male presented with a 3-year history of asymptomatic, cauliflower-like flesh-colored mass over the genitals. The patient had noticed a pea-sized lesion over the suprapubic area which gradually progressed to involve the penis and scrotum. He reported no fever, loss of weight,



Figure 1: Comparative clinical picture of Buschke–Lowenstein tumor

and urinary symptoms. The patient gives a history of being in monogamous relationship for 35 years and denies previous promiscuous behavior.

On examination, the patient was afebrile and hemodynamically stable. Large cauliflower like growth composed of multiple coalescing verrucous skin coloured papules measuring in total 10 cm × 10 cm over the mons pubis, root and shaft of the penis, and base of the scrotum [Figure 1]. Few skin-colored, sessile papules were also present over the scrotum. The lesion was nontender, and there was no local raise of temperature. Rest of physical examination was normal. Laboratory studies such as hemogram and liver and renal function tests were within normal limits. HIV and venereal disease research laboratory tests were nonreactive.

Histopathological examination revealed vacuolization of keratinocytes (koilocytes) in the upper epidermis with hypergranulosis and elongation of rete ridges with thick-walled capillaries and lymphocytic infiltrate in the dermis consistent with condyloma acuminatum. There was no histopathological evidence of malignant transformation [Figure 2].

A final diagnosis of Buschke–Löwenstein tumor was made. The patient was explained about the multiple intralesional injection of measles, mumps, and rubella (MMR), and written informed consent was taken. The patient was given intralesional injection of MMR vaccine of 0.1 ml over the base of large lesions, and subsequent injections were given every 15 days over the course of 4 months, a total of eight sittings. The tumor visibly reduced in size just after the first sitting and reduced to few lesions of <0.5 mm over the next 4 months [Figure 1].

BLT is a rare tumor, thus controlled studies examining various treatment modalities or well defined treatment protocols are lacking. This makes choosing of appropriate modality difficult. Newer topical therapies such as CO<sub>2</sub> laser surgery, intralesional bleomycin, topical 5-fluorouracil, and interferon-alpha are ideal choices for noninvasive cases.<sup>[1]</sup> Surgery is required in severe invasive cases but is associated with genitourinary complications, and risk of recurrence is high as potential spillage of tumor cells during surgery.<sup>[2]</sup> Chemotherapy and radiation therapy should be used only in case of disease

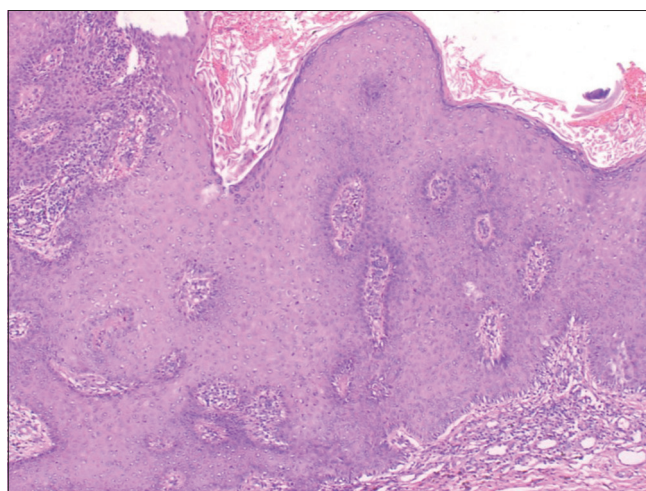


Figure 2: Buschke–Lowenstein tumor histopathology image. The magnification is 40x

recurrence because their effectiveness has not been fully documented.<sup>[1,2]</sup>

Immunotherapy is defined as a type of biological therapy that uses substances to stimulate or suppress the immune system to help the body fight cancer, infection, and other diseases.<sup>[3]</sup> Immunotherapy appears to enhance virus recognition by immune system, allowing clearance of treated wart, distant wart and helps to prevent infection. Hence, to stimulate cell-mediated immunity, various antigens of fungal, mycobacterial, and bacterial origins have been used.

MMR is a live attenuated vaccine. In a study by Dhope *et al.*, about 65% of patients of common warts treated with MMR vaccine showed complete clearance after 3 injections.<sup>[4]</sup> In a similar study by Chauhan *et al.*, 82.4% of patients with common warts showed complete clearance with minimal side effects.<sup>[5]</sup>

Although immunotherapy helps in reducing the bulk of lesion, we have also planned for surgical removal of remaining tumor as now it is easily excisable with good control over bleeding and also helps to avoid recurrence or malignant transformation.

#### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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#### Conflicts of interest

There are no conflicts of interest.

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