

Oncology

Phimosis: A rare complication of immunotherapy with durvalumab

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ABSTRACT

We present a case of a 69 year old man with phimosis associated with immunotherapy with durvalumab for metastatic non-small-cell lung cancer. The patient developed vitiligo like dermatosis after the induction dose of durvalumab, subsequent administration of the immunotherapy the patient developed a fibrous ring of the foreskin. Immune-mediated adverse reactions have been described after the use of durvalumab, but, to our knowledge, there are no reports of phimosis and vitiligo like reactions.

Introduction

We present the case of an immunology related urologic complication in a patient who underwent chemotherapy and immunotherapy with durvalumab.

Case presentation

A 69 year-old man was diagnosed with metastatic non-small cell lung cancer in January 2019. He entered a protocol with pemetrexed 900 mg/100 ml, carboplatin 620 mg/AUC/500 ml and immunotherapy with Durvalumab 1500 mg/250 ml. He had partial response, with the metastatic lesions remaining stable. After several follow-up visits, on August 2019 he noticed that, after the administration of Durvalumab, the foreskin turned narrower and became hypo-pigmented with the subsequent dose. He came as an outpatient to the urologic clinic. He had had the previous Durvalumab dose 15 days before. The foreskin could only be retracted with difficulty and he had little fibrous ring. Immediately after the administration of Durvalumab, the fibrous ring became narrower and it became impossible to retract the foreskin. The phimosis was more evident two days after the administration of the immunotherapy. [Figs. 1 and 2.](#)

He underwent circumcision with no complications. The pathology report was acanthosis with hyperkeratosis, hypergranulosis and chronic inflammatory cells that involved the dermo-epidermal junction. [Fig. 3.](#)

Discussion

Durvalumab is indicated in patients with unresectable stage III non-small cell lung cancer following chemo-radiotherapy.^{1,2} Several of the immune-mediated adverse reactions described are immune-mediated pneumonitis, hepatitis, colitis, endocrinopathies and immune-mediated dermatologic reactions. Our patient developed a vitiligo-like reaction in the foreskin, with the subsequent phimosis making circumcision necessary.

Vitiligo is an acquired disorder in which white patches of skin and overlying hair result from autoimmune loss of melanocytes from involved areas. A humoral immune reaction has been implicated through the detection of circulating antibodies. However, recent research focuses on a melanocyte-specific cytotoxic-T-cell immune reaction in the melanocyte destruction. Several candidate genes have been proposed for vitiligo susceptibility.³

Conclusion

Durvalumab activates immune system and can enhance inflammatory reactions. Our patient developed a fibrous ring in the foreskin that was narrower where vitiligo was found. Phimosis is very common in patients with hypo-pigmented lesions of the foreskin, to our knowledge there are no reports of phimosis on patients under immunotherapy with durvalumab. We recommend that patients with known vitiligo who are candidates for this treatment must seek urologic advice to avoid

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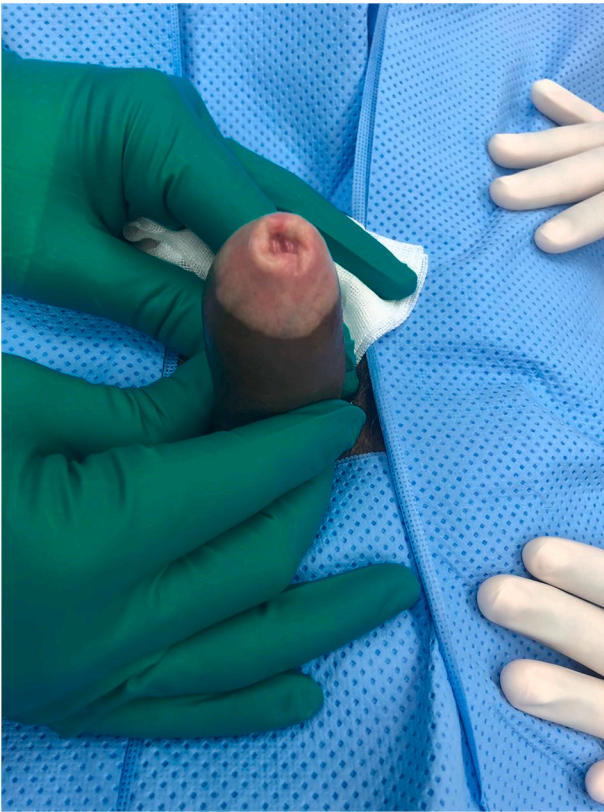


Fig. 1. Phimosis previous to the surgery, it is noteworthy the foreskin is thick and with new onset of hypo-pigmented patches.



Fig. 2. Phimosis, note the thick foreskin impossible to retract, durvalumab dosis 15 days previous to the surgery.

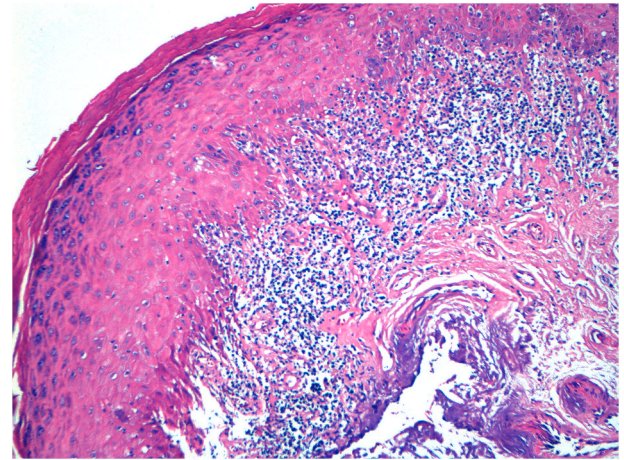


Fig. 3. Acanthosis with hyperkeratosis, hypergranulosis and chronic inflammatory cells that involved the dermo-epidermal junction.

complications like phimosis or the organ threatening paraphimosis.

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