

·Case Report·

Coagulation of a giant hemangioma in glans penis with holmium laser

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Abstract

A 21-year-old man presented with an enlarged giant hemangioma on glans penis which also causes an erectile dysfunction (ED) that partially responded to the intracavernous injection stimulation test. Although the findings in magnetic resonance imaging (MRI) indicated a glandular hemangioma, penile colored Doppler ultrasound revealed an invaded cavernosal hemangioma to the glans. Surgical excision was avoided according to the broad extension of the gland lesion. Holmium laser coagulation was applied to the lesion due to the cosmetic concerns. However, the cosmetic results after holmium laser application was not impressive as expected without an improvement in intracavernous injection stimulation test. In conclusion, holmium laser application should not be used to the hemangiomas of glans penis related to the corpus cavernosum, but further studies are needed to reveal the effects of holmium laser application in small hemangiomas restricted to the glans penis. (*Asian J Androl* 2008 Sep; 10: 819–821)

Keywords: lasers, penis, erectile dysfunction; hemangioma; holmium laser

1 Introduction

Hemangioma is the most common benign vascular tumor that results from proliferation of immature capillary vessels [1]. Penile hemangiomas are very uncommon mesenchymal tumors. Generally, they are small in size and clinically not relevant, except for complaints regarding the aesthetic aspect and the possibility of bleeding during intercourse. The localization of the hemangioma to the glans is rarer. Possible therapies include

surgical excision, electrofulguration, cryotherapy, and sclerotherapy. We describe an extremely rare case of a large glans hemangioma originating from the corpus cavernosum that was treated by holmium laser because of cosmetic concerns.

2 Case report

A 21-year-old man was referred to our clinic as a result of an enlarged glans formation accompanied with mild erectile dysfunction. The patient did not complain of bleeding, hemospermia or macrohematuria. On physical examination, the tumor was mostly localized in the base of the glans. The surface of the tumor was very irregular and raspberry-colored (Figure 1). The formation decreased considerably in size after slight digital

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Figure 1. Large hemangiomatous lesions on the glans penis.



Figure 3. Penile hemangioma and laser application with holmium.

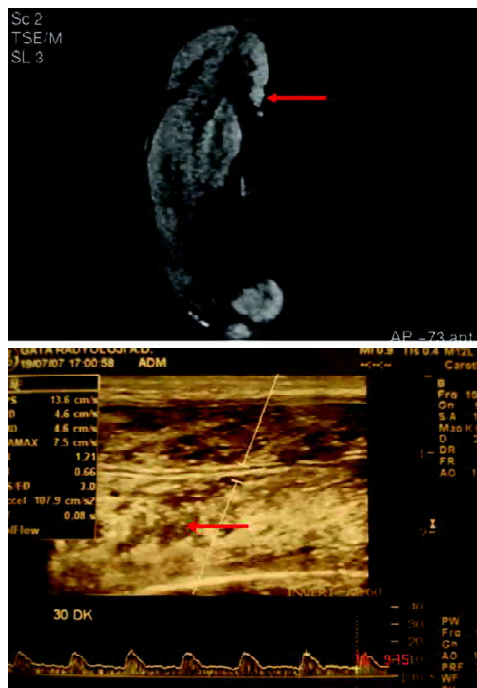


Figure 2. Magnetic resonance imaging and penile colored Doppler: Angiomatous formation in glans and cavernous body.



Figure 4. Appearance of glans penis 2 and 5 months after the operation.

compression. Magnetic resonance imaging (MRI) was first performed to determine the borders of the hemangioma. Although the MRI findings indicated a glandular hemangioma (Figure 2), a penile colored Doppler ultrasound revealed an invaded cavernosal hemangioma to the glans (Figure 2). We decided to apply the holmium laser to the glans to improve its cosmetic appearance (in accordance with the knowledge regarding Nd:YAG laser usage in hemangiomas). The holmium laser (Lumenis, Tel Aviv, Israel) was used under general anesthesia at a maximal average power of 100 W (2 J at 50 Hz) to enucleate pro-

static adenomata using a previously described technique [2, 3]. A power output of 25–40 W was used for 3 s with a contact probe (Figure 3). The holmium laser was applied to all the hemangiomatous lesions on the glans. The patient was discharged on the second day with topical nitrofurazone. In the follow-up period, erectile dysfunction (ED) did not improve based on the intracavernous injection stimulation test and penile colored Doppler. Although the cosmetic appearance of the glans hemangioma was improved in the second month, it had returned to its original appearance 5 months after the operation (Figure 4).

3 Discussion

The etiology of glans hemangioma is not completely understood. Although some investigators maintain that it should be considered a congenital vascular anomaly or a benign vascular neoplasm [4–6], others believe that it could be produced by herniation of the cavernous body tissue, as in the present case [7], or that it could grow up through the revascularization of a previous penile hematoma [8]. Therapeutic options for small lesions include surgical therapy, electrofulguration and cryotherapy

[9–11]. More recently, laser fulguration [12–14] and sclerotherapy [15, 16] have also been proposed.

Although glans penis hemangiomas can continue to grow, most lesions require no treatment, unless a patient is concerned regarding the appearance of the penis. Because of high vascularity, surgical excision of these tumors not only carries the risk of bleeding during the excision but also might cause nocturnal erections in the postoperative period. In addition to poor healing, scar formation is a frequent complication of the surgery of glans penis. For the first time, Jimenez-Cruz and Osca [12] have described a successful Nd:YAG laser treatment in a case of glans penis hemangioma. However, there is no evidence in the published literature regarding the application of the holmium laser in the treatment of glans hemangiomas.

The results of the holmium laser application were not impressive, as was expected during the 5-month follow-up period, despite the better cosmetic appearance in the 2-month period after the operation. The glans hemangioma was an extension of the cavernosal hemangioma in the present case. This might have been the cause the undesired outcome, rather than the ineffectiveness of holmium laser. The effectiveness of the holmium laser in small isolated glans hemangiomas is not known and an issue for future work.

Diagnosis is another challenging issue in these cases that is worth mentioning. The origin and extension of glans hemangiomas might not be clearly displayed by MRI, like in the present case. Penile colored Doppler should be used in these cases, with MRI, to demonstrate the cavernosal extension of the hemangioma.

In conclusion, holmium laser application should not be used on the hemangiomas of glans penis related to the corpus cavernosum, but further studies are needed to reveal the effects of holmium laser application in small hemangiomas restricted to the glans penis.

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