

Intralesional Sclerotherapy in Hemangiomas of the Glans Penis

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Abstract

Hemangiomas are vascular benign lesions which can occur on any part of the body. Urinary tract hemangiomas and specifically that of glans penis are extremely rare. Treatment modalities available for such lesions are surgical excision, cryotherapy, sclerotherapy, and electrofulguration. In view of the paucity of reported patients a gold standard for treatment is yet to be established. A 22-year-old male with hemangioma of glans penis of 10 years duration presented because of his concern about lesion rupturing during the act of coitus. The patient was successfully treated with sclerotherapy using 2 ml of 2% sodium tetradecyl sulfate. Lesion resolved completely 5 weeks post-sclerotherapy and there was no evidence of any recurrence in follow-up period of next 2 years.

Key words: Hemangiomas, Laser therapy, Penis, Sclerotherapy, Sodium tetradecyl sulfate

INTRODUCTION

Benign vascular malformation is called as “hemangiomas.” They are classified as capillary, cavernous, arteriovenous, venous, and mixed subtypes. Urinary tract hemangiomas constitutes 2% of all hemangiomas.¹ Only 1% of all hemangiomas comprises scrotal and penile hemangiomas which can extend into perineum, thigh or even anterior abdominal wall.² We present a case of young man with hemangioma on the glans penis which was treated with intralesional sclerotherapy.

CASE REPORT

The 22-year-old unmarried man came with complaints of gradually increasing painless swelling of insidious onset

over the glans penis since last 10 years. The patient had no urinary complaints or any difficulty in erection. Patient gave no significant family history.

On examination, there was an elevated irregular bluish red lesion of size 2 cm × 1.5 cm on the left dorsolateral portion of the glans penis (hemangioma of the glans penis) (Figures 1 and 2). The lesion was compressible, painless and non-pulsatile. There was no local rise in temperature. Lesion did not increase on erection of penis. Both the testicles were normal in size and shape.

Clinical examination was consistent with the diagnosis of hemangioma on the glans penis. Color Doppler studies of lesion on the glans penis showed well-defined, hypoechoic lesion of approximately 1.4 cm × 0.8 cm on dorsal aspect of the glans penis, in the subcutaneous plane. It showed few feeding vessels traversing it and showing column flow on Doppler imaging. Lesion was abutting the tunica albuginea. Corpora cavernosa was normal. There was no influx or efflux from the corpus spongiosum.

Treatment was performed under local anesthesia using 2% lidocaine for penile block. 2 ml of sclerosant sodium tetradecyl sulfate 2% was used. The first hemangioma

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www.ijss-sn.com

Month of Submission : 07-2015
Month of Peer Review : 08-2015
Month of Acceptance : 08-2015
Month of Publishing : 09-2015

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Figure 1: Hemangioma of glans penis



Figure 3: Post-sclerotherapy after 5 weeks

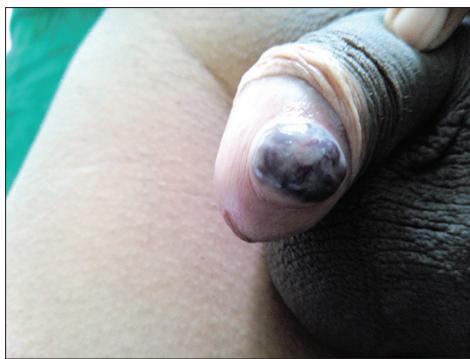


Figure 2: Hemangioma of glans penis



Figure 4: Post-sclerotherapy after 5 weeks

was emptied by compression. A tourniquet was applied at the base of the penis to prevent further refilling of hemangioma. We used 26-gauge needle for injecting 2 ml of 2% sodium tetradecyl sulfate into hemangioma directly. Compression of the hemangioma was maintained exactly for 5 min after which it was released. Post-sclerotherapy, compression dressing was applied over the lesion on retracted glans penis for 48 h.

Close observation was kept on the patient for development of preputial edema, urinary complaints or any bleeding through injected sites within first 48 h. After that daily cleaning of glans penis with normal saline and repositioning of prepuce was done twice a day, until first 2 weeks. The patient was followed up every 3rd day after the treatment. There was mild telangiectasia in the surrounding area and formation of scab over the lesion. In 7th week post sclerotherapy scab separated on its own leaving a flat area beneath it with minimum pigmentation.

Lesion resolved completely (post-sclerotherapy after 5 weeks) (Figures 3 and 4). The patient will be followed up quarterly over next 2 years for any recurrence.

DISCUSSION

Benign vascular malformations are called as hemangiomas. Urinary tract hemangiomas constitutes 2% of all hemangiomas.¹ Scrotal and penile hemangiomas comprises 1% of all hemangiomas which occasionally may extend into perineum, thigh or even anterior abdominal wall.² Approximately 80% of penile hemangiomas are located in the glans.³ Hemangiomas of urethra, genital skin and prostate have been also reported rarely.⁴

Reports of hemangioma of glans penis are scarce in the available literature.⁵ Hemangiomas of glans penis usually present within first two decades of life, and they usually enlarge with the increasing age.⁶ Such lesions may continue to grow although small, asymptomatic lesions may be left under observation.⁴ However in our case, this young patient was concerned about rupture of the lesion during act of coitus hence intervention in the form of sclerotherapy was performed.

The majority of lesions of hemangioma of glans penis do not require any treatment as they are asymptomatic. Treatment is only required in cases of the presence of symptoms such as pain, bleeding from lesion or for cosmetic purposes.

Due to less number of reported cases of glans penis hemangioma there is a lack of standard therapeutic protocol. Different types of available therapies for treatment of hemangioma of glans penis include cryotherapy, surgical excision, sclerotherapy, and electrofulguration.⁷

Jimenez-Cruz and Osca were the first to introduce neodymium:Yttrium-aluminum-garnet (Nd:YAG) laser in the treatment of hemangioma of glans penis. Nd:YAG laser has excellent tissue coagulation properties without causing any fibrosis, but its tissue penetration rate is deeper as it is poorly absorbed by body pigment.⁸ Potassium thiophosphate laser is preferable in children, mainly in large lesions as it is absorbed by hemoglobin and hence produces less scar. According to available literature laser treatment for such hemangiomas has shown good functional and cosmetic result.⁹ However, availability of laser therapy and cost-effectiveness is major issue.

Intralesional sclerotherapy is a cost-effective method which is easily available and is inexpensive. Prolonged compression over the injected site after injection of sclerosant is known to achieve better results with least morbidity.¹⁰ Compression causes direct contact of sclerosant agent with the endothelium which disrupts endothelium and causes edema in few minutes. This causes thrombus formation in lumen of vessel followed by subsequent fibrosis leading to endosclerosis.⁹

Amongst variety of sclerosants which are available such as 30% hypertonic saline, 2% or 3% sodium tetradecyl sulfate, ethanolamine, 2% hydroxypolyaethoxydodecan polidocanol, and polyiodide iodine, sodium tetradecyl sulfate 2%, 2 ml in quantity was used by us. We used

26-gauge needle for injecting sclerosant, but other gauge needles have also been used according to literature.³

CONCLUSION

Surgical excision has high risk of damaging underlying structures and causing deformity. Since hemangioma over glans grows beneath the epidermis so partial resection of corpus spongiosum is almost always necessary.³ Glans penis is devoid of subcutaneous tissue and tunica albuginea of corpus spongiosum is very poorly developed. This characteristic anatomy of glans penis makes it difficult to dissect skin from corpus spongiosum.

The rarity of hemangioma of glans penis and its poor documentation with respect to treatment makes it difficult to choose best method among available modalities. This case is presented for its rarity and satisfactory outcome of sclerotherapy.

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How to cite this article: Manerikar K, Singh G, Ali I. Intralesional Sclerotherapy in Hemangiomas of the Glans Penis. *Int J Sci Stud* 2015;3(6):207-209.

Source of Support: Nil, **Conflict of Interest:** None declared.