Journal of Clinical and Medical Images

Research Article

ISSN: 2640-9615 | Volume 7

Urethral Hemangioma: Our Experience with Laser Holmium

Ballesty P, Fontana GL*, Fontana RL, Guglielmi JM and Laur JDL

Clinical Andina de Urology, Mendoza Hospital Italiano, Mendoza, Argentina

***Corresponding author:**

Gaston Lopez Fontana,
Clinical Andina de Urology, Chile 865, Capital.
Mendoza, Argentina

Received: 28 Sep 2023
Accepted: 01 Nov 2023
Published: 10 Nov 2023
J Short Name: JCMI

Citation:

Fontana GL, Urethral Hemangioma: Our Experience with Laser Holmium. J Clin Med Img. 2023; V7(5): 1-4

Keywords:

Urethral hemangioma; Bleeding; Hematuria; Urethra

1. Abstract

1.1. Background: Urethral Hemangioma (UH) is an extremely rare disease with no standard of treatment. Therefore, the purpose is to report three cases management endoscopically using Holmium Laser (CALCULASE II) with 12 months follow-up.

1.2. Methods: From 2021 to 2023, three cases were diagnosed with UH. We analyzed age, clinical manifestation, site of the hemangioma over the urethra and recurrence defined as urethral bleeding. The clinical follow-up was at 3, 7, 15, 30 days and every 3 months until 1 year. After cold biopsy, Holmium laser was used to fulgurate using a conventional cystoscope. Successful treatment was defined as no bleeding recurrence.

1.3. Results: Clinical manifestation was urethral bleeding in all cases, 2 spontaneous and one after intercourse. In those with spontaneous bleeding, the UH were within penile urethra and after intercourse was distal to verumontanum at posterior urethra. The diagnosis was done by cystoscopy only. Hospital stay was 8 hours and urethro-vesical catheter was retrieval one day after surgery. After 12 months follow-up, no patient recurs without urethral stricture.

1.4. Conclusion: Our experience in three patients demonstrated that Holmium laser was simple, minimally invasive with 12 months success in all cases. This infrequent disease has no standard of treatment; therefore, holmium laser could be a primary choice. More cases and longer follow up are needed.

2. Introduction

Urethral Hemangiomas (UH) are an unusual benign tumor being reported less than 30 cases in the literature. Most of them are diagnosed between thirty and forty years old [1]. Their clinical manifestation is nontraumatic urethral bleeding; nevertheless, there are few reports describing symptoms such as hematuria or hemospermia [2,3]. They could be developed at any level of urinary tract such as kidneys, ureter, bladder, prostate and urethra being this one the less frequent. Also, it could be solitary or multiple. It is estimated that they arise from embryonic remains of angioblastic unipotent cells that fails in a development of a normal blood vessel. They are divided in hemangioma-endoteliomas, capilar hemangiomas and cavernous hemangiomas being this one the most frequent [4].

Due to their infrequent, or may be subdiagnosticated, there are not a standard of treatment; hence, the aim is to report 3 cases with UH treated using Holmium Laser (CALCULASE II) with 12 months follow-up and propose a standard of treatment.

3. Material and Methods

Between 2021 and 2023, three patients were diagnosed with UH. We analyzed characteristics such as age, site, clinical manifestation and prospectively evolution for a period of 12 months. Written informed consent was obtained from all the patient even with their figures. The surgical technique was, after cold biopsy (Figure 1) or transurethral resection (TUR) of the UH, Holmium laser with 360 micras fiber with 1 Joule of potency was used guided with a conventional cystoscope (Figure 2). Follow-up was at 3, 7, 15, 30 days and then every 3 months for one year. Recurrence was defined as a new bleeding from urethra without any exam.

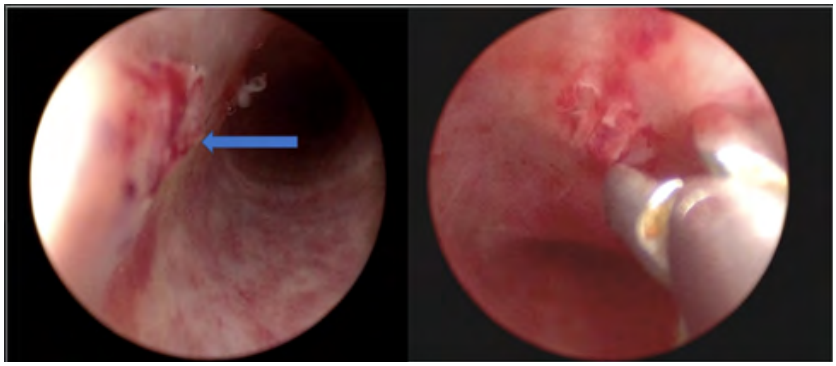

Figure 1: Left: Endoscopic view of urethral hemangioma; Right: Cold biopsy

Figure 2: Fulguration with laser de Holmium

4. Results

All cases are summarized on Table 1. All consulted immediately after clinical manifestation. Two spontaneous urethral bleeding and other after coitum. Physical examination, vital signs and external genitalia were normal except in the first case where an urethral carcinoma was suspected due to painful and indurated; hence, an Magnetic Resonance (MR) was performed. Laboratory tests were normal in all cases.

The most frequent sites of the UH was penile urethra and one case distal to verumontanum. The case with a MR allowed us the size and extension of the hemangioma (Figure 3). Histopathological findings were hemangioma in all cases (Figure 4). Hospital stay was less than 24 hs and a urethro-vesical catheter was placed for one day. After 12 months follow up, no patient recurs without urethral complication.

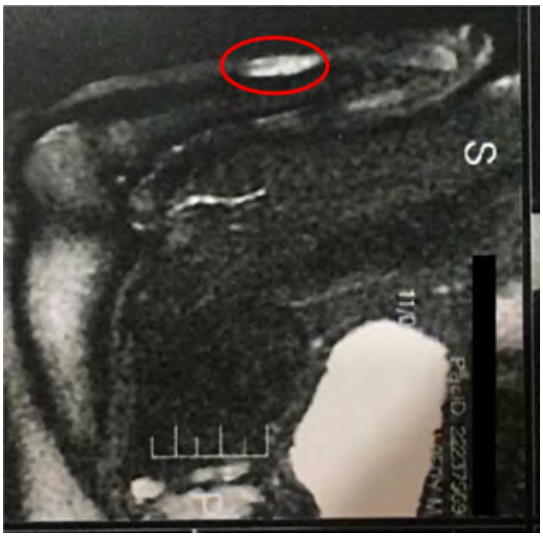

Figure 3: Penis MR. It could see the uptake of contrast form the hemangioma within the spongy body (circle).

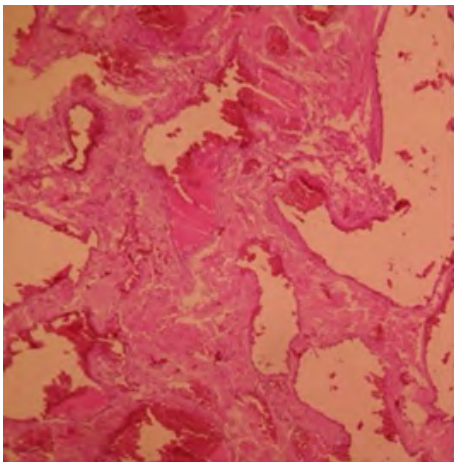

Figure 4: Pathological tissue originates from the urethral mucosa displaying submucosal vascular dilatation of the urethra, which is consistent with urethra hemangioma.

Table 1: Characteristics of the current cases.

CASES	AGE	CLINICAL MANIFESTATION	CYSTOSCOPIC FINDINGS	COMPLEMENTARY EXAMS	TREATMENT	RECURRENCE (12 months)
1	52	Urethral bleeding	Eritematous over penil urethral	MR	Cold biopsy and laser Holmium	NO
2	83	Urehral bleeding	Ertitema over navicular fossa	None	Cold biopsy and laser Holmium	NO
3	47	Uretrhal bleeding	Posterior utethra	None	TUR and laser Holmium	NO

MR: Magnetic Resonance; TUR: Transurethral Resection

5. Discussion

UH are an extremely rare disease from the urethra where strictures clearly are the cornerstone; hence, there have been very few case reports published with different strategies of treatment. Probably, this entity is not so uncommon being underdiagnosed due to the main symptom. In our experience, three patients were diagnosed in only 2 years because every nontraumatic urethral bleeding were studied with cystoscopy as a first time anyway. One of the most important complementary exams is magnetic resonance (MR) with contrast [5]. It could demonstrate length and extension of the hemangioma. In our serie, just one patient required this exam because there was a painful induration at physical examination that mimic a penile tumor.

The most frequent clinical manifestation is urethral bleeding such as our serie; however, in some cases are asymptomatic and diagnosed incidentally during an endoscopic urological study. Varea-Malo et al. reported a rare clinical manifestation of lower urinary tract symptoms especially obstructive due to urethral stenosis with urethral bleeding secondary to a big hemangioma [6]. Nevertheless, in cases where symptoms are repetitive or intensive bleeding, it must be treated.

There is no standard treatment suggested by the hemangioma size or site. Some UH need to be treated endoscopically and others a conventional approach such as urethroplasty.

Few cases have been reported about different types of treatment, from endoscopic to conventional surgery until different lasers appears. Tremp Velazquez et al. described one case in 1995 and reviewed the literature about treatment options [7]. The conclusion was that there were many types such as radiotherapy, surgery and arterial embolization. Since laser appears, the first report with this technology was described with laser Argon one year later. The authors demonstrated a successful treatment with a little trauma of the urethra [8]. Since that, other type has been used to treat this pathology. One of them was thiofosfato pottasium (KTF) and the other Tulium laser showing excellent outcomes being effective and safety with low morbidity [9-11]. YAG-Holmium laser also demonstrated to be feasible and effective being used in more than one time in case of recurrence [1]. Otherwise, when UH are over posterior urethra TUR is the elective treatment [12].

Those patients who present extensive hemangiomas over anterior urethra or are refractory to endoscopic treatment probably the best choice is an urethroplasty [13].

In our experience, with no recurrence after 12 months follow-up, we hypothesize that low penetrance of Holmium laser over urothelium would produce a scar above the hemangioma without causing urethral injury.

Therefore, our outcomes and those reported in the literature, we propose that endoscopic treatment with laser of UH should be the standard of management leaving urethroplasty as a tool for extensive or recurrence hemangiomas.

Finally, the limitations of this manuscript are the few numbers of cases and the short-term follow-up. However, is a rare disease and in these cases are treated with new laser technology.

6. Conclusion

Urethral Hemangiomas probably are not so uncommon suggesting that every spontaneous urethral bleeding should be examinate by cystoscopy. Currently, there are no standard of treatment; however, the effectiveness of our experience and the few cases reported with laser we propose that this treatment could be the gold standard. More cases and longer follow-up are necessary.

References

1. Jahn H, Nissen HM. Haemangioma of the urinary tract: review of the literature. Br J Urol. 1991; 68(2): 113–7.
2. Parshad S, Yadav SP, Arora B. Urethral hemangioma: an unusual cause of hematuria. Urol Int. 2001; 66(1): 43–45.
3. Regragui S, Slaoui A, Karmouni T, El Khader K, Koutani A, Attya AI, et al. Urethral hemangioma: case report and review of the literature. Pan Afr Med J. 2016; 23: 96.
4. Soleimani MJ, Shadpour P, Mehravaran K, Kashi AH. Laser treatment for urethral hemangiomas: report of three cases. Urol J. 2017; 14(3): 3094–9.
5. Efthimiou I, Kavouras D, Vasilakis P, Katsanis S. Hemangioma of penile urethra-treatment with simple transurethral excision: a case report. Cases J. 2009; 2: 6199.
6. Varea-Malo R, Campos-Juanatey F, Portillo Martín JA, Castillo Carvajal L. Multiple Urethral Hemangiomas Associated with Urethral Stricture: An Uncommon Aetiology for Urethral Bleeding. Case Rep Urol. 2019; 2019: 9071327.
7. Tremps Velázquez E, Ramón Dalmau M, García Rojo D, Vila Torres J, Reig Ruiz C, Cardona Carbonell S, et al. Urethral hemangioma. Description of a case and review of the literature. Arch Esp Urol. 1995; 48(2):197-8.
8. Borrego Hernando J, Maganto Pavón E. Argon laser treatment of urethral angioma. Report of the first case. Arch Esp Urol. 1996; 49(8): 859-61.
9. Masood A, Hussain I, Khan UU, Masood Y, Umair M, Rehman OF, et al. Hemangioma of penile urethra-Treatment with intralesional triamcinolone. Urol Case Rep. 2021; 35: 101494.
10. Kennedy WA, Hensle TW, Giella J, Hendricks JG, Treat M. Potassium thiophosphate laser treatment of genitourinary hemangioma in the pediatric population. J Urol. 1993; 150(3): 950-2.
11. Genov P, Conkova E, Hristova I, Koleva G, Dunev V, Stoykov B, et al. A rare case of urethral hemangioma treated with LASER. Urol Case Rep. 2022; 43: 102067.
12. Huang ZM, Li YF, Wang Q, Zhang Y, Luo Y, Nie ZL et al. Clinical characteristics and endoscopic treatment of hematospermia with postcoital hematuria. BMC Urol. 2020; 20(1): 78.
13. Alam R, Rostom M, Cohen AJ. Management of Urethral Hemangioma. Urology. 2022; 160: 227.