Multiple Cavernous Hemangiomas of the Glans Penis, Penis, and Scrotum

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Although a hemangioma is usually found in childhood, a cavernous hemangioma of the genitalia is rarely found. Urologists often face difficulty when making the decision for surgery to treat a genital cavernous hemangioma. We report here on a case of a cavernous hemangioma that extended into the glans penis, penile shaft, and scrotum. Immediately after surgical excision of the hemangiomas in the penile shaft and scrotum, the worm-like lesions subsided. The protruding lesions of the glans penis were naturally relieved after 12 months follow up. (Korean J Urol 2008;49:92-94)

Key Words: Cavernous hemangioma, Penis, Scrotum

Hemangioma, a benign vascular neoplasm or a congenital malformation, is a proliferation of endothelial cells. It commonly involves skin and is rarely found in genitalia. It constitutes only 1-2% of all hemangiomas. Because of its rarity, there is no clear guideline for treatment on genital hemangiomas. Most hemangiomas on penile shaft have been naturally healed after conservative therapy while some require surgical excisions to treat further pain and/or cosmetic problem. Recently various types of laser and Intraleisional sclerotherapy have been used to remove hemangiomas within the confines of glans penis or small lesion. However, due to its impossibility of knowing the invasive depth and the need of repeated procedures, laser therapy is not recommended as a primary surgical treatment to remove multiple or large hemangiomas. Therefore, it is difficult to decide how and which area to surgically excise.

CASE REPORT

A 30-year-old male patient visited due to painful palpable masses of the penis and scrotum developed since two years ago. His past and family history did not show specific findings related to the palpable masses. On physical examination, palpable masses were detected on scrotum, penile shaft, and glans penis. The palpable masses on scrotum and penile shaft were tender and looked like a "bag of worms" (Fig. 1). Scrotal mass was single and separated from penile mass. And the mass did not transmit light. The dorsal penile masses placed at 0.5 cm below the corona sulcus extending onto proximal penile shaft. Bluish tiny painless masses were found diffusely in four different areas of glans penis. Lesions of penile shaft caused a slight right penile lateral curve (less than 15 degree) during erection. Clinical and laboratory findings including blood test, chemical blood test, blood coagulation test and urinalysis were normal.

These hemangiomas were definitely confined within superficial layer at physical examination without any grossly extended lesions which were beyond genital area. And there was rare chance of extension of hemangioma into other organs. Therefore, we decided to perform surgical excision of scrotal and penile hemangiomas without any further radiologic studies. Under spinal anesthesia, the area between cutaneous tissue and Buck's fascia was dissected up to proximal penile shaft after circumference incision 1.0 cm below from the corona sulcus. Two main masses were found on the dorsal portion of penile shaft and 5-6 other masses were branched out on the lateral portion of penile shaft. The size of two masses of penile shaft were 3.0x2.0x1.0 cm and 2.0x2.0x1.0 cm and its shape looked like strawberry appearance. Penile main masses were completely removed but others were partially excised because
of severe adhesion with Buck’s fascia. About 3 cm separate vertical incision on scrotal raphe was made. Scrotal main mass was completely removed, and they were not connected to any large vessel such as pudendal veins. The size of scrotal mass was about 2.0x2.0x1.0 cm and its surface was also bumpy (Fig. 2). Masses of glans penis were left without surgical operation after removing masses of penile shaft and scrotum because the possibility of onset of glans penis mass due to branched out mass of penile shaft was high. The masses of penile shaft and scrotum were completely separated from each other.

On microscopic pathological examination, ectatic blood vessels containing red blood cells and endothelial cells were consisted with hemangioma. Encapsulated thickening fibrous tissues among vessels showed typically characterized cavernous hemangiomas (Fig. 3).

After surgery, patient had no pain during erection and the lesions disappeared. The patient was satisfied with the disappearance of glans penis lesion after 12 months follow up.

**DISCUSSION**

Most urogenital hemangiomas appear on kidney and bladder and it is rare to find hemangiomas on glans penis, penile and scrotum. Only 10 cases of solitary hemangiomas on penis, scrotum, and urethra were reported in domestic literature. Because of its rarity, there is no clear guideline for treatment. Most penile hemangiomas are painless and require no treatment due to a high success of natural healing after conservative therapy. However, treatments may be needed when patients suffer from pain, ulceration, heaviness and bleeding. Unlike penile hemangiomas, scrotal hemangiomas strongly require a surgical excision because of the risk of massive bleeding,
incomplete resolution, and gradual extension of adjacent organs. Up to 50% of scrotal hemangiomas showed that it could be extended into the perineum, thigh or abdominal wall, therefore, accurate history taking and physical examinations are necessary to define the hidden lesion. In some cases, en bloc resection should be performed to reduce the chance of decrease in size of testis and the rate of infertility at the diagnosis of scrotal hemangiomas.

In a case of glans penis hemangiomas, various types of laser (CO₂ laser, Nd:YAG laser, yellow-light laser, etc.) and Intralesional sclerotherapy have been used. In the lesion confined within glans penis, Nd:YAG Laser is preferred due to good cosmetic outcome due to less scar tissue, less bleeding, and no time wasting by using local anesthesia. However, laser therapy is not enabled to know the exact coverage of invasion depth and may need repeated procedures for a complete removal of multiple or large hemangiomas. Furthermore, laser therapy costs more than other treatment options. Thus, laser therapy is not recommended as a primary surgical treatment of multiple or large hemangiomas. Intralesional sclerotherapy is inexpensive and can be also performed under local anesthesia. However, it carries the risk of causing pulmonary embolism, thrombophlebitis, necrosis and ulceration in adjacent tissues. Therefore, it is restrictively used only to treat small lesion on glans penis along with laser therapy. For large or multiple hemangiomas surgical excision is recommended, because of no need of repeated procedure and the possibility of complete removal of mass.

In the treatment of multiple genital hemangiomas, we may conservatively treat the associated small lesions and wait for natural relief after surgical excision of main mass. Especially, in which the glans penis is an associated lesion, watchful waiting for spontaneous resolving is primarily recommended. Because the glans penis is cosmetically important and not easily managed by surgical procedures, it is not late to decide the excision of glans penis lesion when there is no satisfactory result after conservative treatment.

REFERENCES