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Neither Inguinoscrotal Hernia nor Hydrocele Misunderstood Giant Testicular Neoplasm: Case Report and Literature Review

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Abstract

Both clinical and US assessments are in several cases not quite diriment about misunderstood subacute scrotal swelling, despite ability in recognition of almost all pathologies affecting the scrotal sac and its content. In a former clinical scenario of incarcerated inguinoscrotal hernia, we admitted in an emergency setting a 36 y-old male patient and discovered during the surgical operation, after a worthless scrotal ultrasound-Doppler exam, a latter enormous 17 cm × 10 cm × 9 cm seminomatous neoplasm with hypertensive ipsilateral hydrocele. A radical epididymo-orchiectomy was performed and, therefore, the patient was sent to the oncologist for complementary therapies. A poor correlation has been lighted on between pathophysiologic processes affecting scrotal structures. In conclusion, following even potential masquerading clinical findings, some additional radiological findings such localized CT scan could allow a better distinction between scrotal injuries, achieving better preoperative planning and the best tailored surgical outcome.

Keywords: Inguinoscrotal hernia; Hydrocele; Seminoma; Testicular neoplasm; Orchiectomy; Inguinotomy

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Introduction

Scrotal swelling can affect men throughout any age. Basically, injuries are divided, due to the onset, in acute and chronic, besides taking into account such relevant findings like traumatic events or malignancies too. Even though the incidence of testicular neoplasms is increasing especially in youth, in several cases incorrect personal habits and even general practitioner opinion are incapable to formulate a suspicious of scrotal injury. Notoriously, clinical findings in both elective and urgent settings allow in most cases the recognition of likewise multiple and various pathologic processes affecting any section of the body, in particular, as in this case, for detection of groin hernia or hydrocele swelling; once again Doppler ultrasonography can add some important information concerning to internal structures, furthermore when a young patient request attention due to localized and progressively increased scrotal pain and swollen, in order to establish the most appropriate treatment. The literature is quite lacking in epidemiological data, its etiologist, prevalence, incidence, and outcome indeed. This study aims to challenge the current know-how in patients with a masquerade testicle malignancy, to get organize and differentiate amongst patients requiring such specific surgical therapy and avoiding mistakes during surgical operations.

Materials and Methods

A 36 y-old male Caucasian patient was admitted to our general surgery department because he complained of a blur left scrotal pain during the last 72 h. The early clinical onset was a suffering patient with a giant aching swollen scrotum, minimal referred inferior abdominal tenderness, treatable abdomen with peristaltic audible movements, Blumberg sign was negative. No bowel

obstruction neither diuresis contraction nor shock signs were registered at hospitalization. He referred to no previous surgical interventions, and no allergies were registered. He furthermore suffered from a deep maniacal-depressive pattern psychiatric disease caused by a perinatal cerebropathy and so that taking some specific medications, like benzodiazepines, butyrophenones, some atypical antipsychotics, antiepileptics, and tricyclic antidepressants; and lived in a poor social context, mainly without any social relationship. His BMI was 34.5 kg/m^2, with a corporeal temperature of 37.3°C (about 99.1°F), systemic blood pressure of 140/90 mmHg, and heart frequency of 95 bpm. Blood tests showed off a slight Gilbert's syndrome, a pattern of heterozygosity in Mediterranean anemia, an immune sensitivity at HCV- related antibodies with a normal gamma electrophoretic band; the amount of WBC was 10300/mm^3. A prompt focused US investigation was fulfilled by a radiologist that reported a hyperdistention of the scrotal sac in which was find an abundant quote of free transonic fluid and a morphological alteration of the homolateral hyperechoic testis of at least 10 cm of length, well-vascularized at the Doppler spectrum, moreover was reported not possible to visualize the contralateral testicle. In light of the main alleged diagnosis of hypertensive hydrocele, an initial trans-scrotal approach was performed (Figure 1, 2) and immediately noted, after the evacuation of a 300 ml quote of free serous citrine fluid, an irregular composed tough testicle mass that was obstructing, due to its shape and giant size, the canal of Nuck. The patient, thereafter, underwent a surgical operation of left radical orchifunicolectomy *via* inguinotomy, and after which was excised a tout-court lozenge comprehending the former incision and peeled the whole internal scrotal surface of tunica vaginalis. An aspiration drainage system was placed for the scrotal empty cavity, successively removed on the 2nd postoperative day. Was prescribed antibiotic therapy with cefazoline 2 gr/die through postoperative 48 h and discharged with 2 tablets a day of Siben*, a combination of Bromelain 200 mg and Boswellia Serrata Casperome* 200 mg, for 30 days on an empty stomach, starting from the first post-surgery day, to reduce edema and prevent the formation of postoperative seroma [1].

After the surgical operation the 2nd postoperative day beta-HCG dosage was 0.1 mU/ml; the patient was discharged uneventfully in the 4th postoperative day, and eventually sent to the oncologist board for the complementary therapies starting a 6-cycle Carboplatin adjuvant therapy administration. The histopathological specimen exam revealed a test is completely replaced by an immune-phenotypical pattern of giant seminomatous germ cell neoplasm of 10 cm × 9 cm 17 cm with inner necro-hemorrhagic and fibro-sclerotic bands with endovasal and albuginea invasion, with a stadiation of pT2 - Nx - Mx, and Placental alkaline phosphatase/CD117 positive, Alpha-FP/CKAE1/AE3 negative. No registered any testosterone free dosage preoperatively. The CT scan of thorax, abdomen, and pelvis did not reveal any retroperitoneal pathological node pattern neither any significant target lesions.

Results and Discussion

From sexual development on, the normal testes are such almost twin homogeneous echoic texture organs, with a normal estimate cubic volume of about 12 cm^3 to 20 cm^3. Testicular neoplasms are some of the most common solid masses among sexual developed men, accounting approximately in this band the 1% of malignancies, especially in youth and early adulthood age [2,3].

Survival outcomes are generally excellent with 5-year survival exceeding 90% [4,5]; despite of the growing incidence of testicular cancer is going to be registered [6].

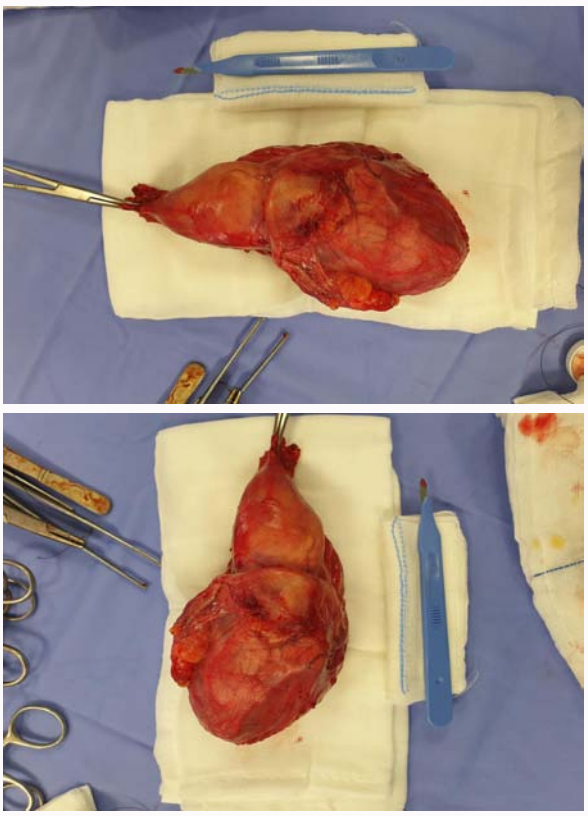

Figure 1 and 2: A radical epididymo-orchiectomy was performed.

Intratesticular neoplasms can be divided into primary germ-cell known as seminomatous and non-seminomatous of which malignant germ-cell account of about 90% to 95%, and other primary and secondary tumors. Giant seminomas are been described in any part of the body trunk, mainly discovered when a compressive or a vascular effect was been produced [7-10].

Hydrocele is a pathological collection of free fluid between layers of tunica vaginalis and is the most common cause of painless scrotal swelling [11,12]; it is quite common in urological practice, accounting of at least 1% to 10% in adult healthy male patients. It has been estimated that in tropical band, mainly low-income countries, about 25,000,000 men suffer from hydrocele due to the infection of Wuchereria Bancrofti, but no large cohort population incidence surveys are been achieved in Western Countries up until now [13,14].

Treatment of testicular neoplasms depending on several considerations. After a via inguinotomy ipsilateral radical epididymo-orchiectomy lots of patients are addressed to an active surveillance strategy more than adjuvant chemotherapy and radiotherapy, because the main relapse risk could be manifested during the first 3 years and, besides, the stage I seminomatous pattern account about 15% to 20% of occult metastases, taking into account a clinical scenario of free 5 years overall survival near 100% [15].

Treatment of choice is still debated for hydrocele, including both surgery and aspiration with possibility of sclerotherapy; however, postoperative complications are reported [16-19].

Some quite peculiar research demonstrated the correlation

between the cytologic collection of malignant free fluid cell and testicular neoplasms that, although is not unexpected, it has been only rarely documented indeed [20].

Ultrasonographic beams are currently employed in the initial detection of such testicular palpable and unpalpable masses distinguishing basically from extratesticular (more often benign) and intratesticular (almost all malignants) location, despite not allow any histologic diagnosis even though the accuracy of grey rendering scale is offered to suppose that. Color-Doppler ultrasonography is the main tool for diagnosis of both acute and chronic scrotal diseases, as well as malignancies, because of its ability to describe dynamically and real-time morphology and internal perfusion [21,22], and for its excellence, safety and reliability for evaluating patients also in a complicated manage settings, preventing such unnecessary surgical explorations; on the other hand, has own proper limitations in light of requiring some elevated expertise and experience in detecting testicular injuries especially in childhood [23].

All that has just above been mentioned is the scaffold to formally comprehend the heterogeneity of treatments depending on starting analyses but, when concomitant double trouble as herein, decision making is no easy choice, so, if one of this cause the other, that meaning the hypertensive hydrocele dues to and masquerading the obstructive bulk mass, of course. In particular, when a physician is going to visit a patient, is just focusing in mind an addressed flow-chart, and so literally a patient with a subacute aching scrotal swollen is presented to, just clinical exam and US findings are presumptive to suggest and to orientate the decision-making process.

A diagnosis of testicular neoplasm is a challenge because of the somewhat little dimension of the majority of bulk masses affecting the scrotum. Also, at any time general practitioners are unable to formulate a suspicious of scrotal injury, even more, if proper patient life is socially impoverished because a psychiatric illness reduces at least any common behavior.

Up to date, no literature has been evidenced on likewise clinical case, and thereafter poor correlation has been shown between pathophysiologic processes herein scrotal structures. Several speculations could be supported on the likelihood to have both a giant hidden germ cell neoplasm revealed opening the scrotal cavity and a hypertensive hydrocele condition affecting the scrotum, with the concurrent severe obstruction of inguinoscrotal Nuck canal that can't allow draining spontaneously any part of the collection fluid in the abdomen. Some critical technical consideration would be figured out wherein we attempted to perform a resective near R0 surgery, over the oncologically radical testicle exeresis *via* inguinotomy, notwithstanding the initial trans-scrotal incision with the consequent violation of the tunica vaginalis, in the reason of the additional subsequent both tout-court lozenge scrotal and whole inner tunica vaginalis asportation, with which we restore a post-surgical macroscopic disease-free condition, that up now gains no debate because the singularity of this clinical case. After the response of pathologist, and due to take in consideration about primary tumor size threshold in stage I seminoma and its implication in overall survival as the most important predictor of relapse, we think the surgical treatment was quite adequate in such peculiar urgent scenario, both due to complete asportation of primary bulk mass as well as of the lozenge comprehending the former incision and the peeling of the inner scrotal tunica vaginalis, and for the possibility of address quickly the patient to the oncologist, all the more so because the whole resolution of occlusive problem and the radical exeresis of the neoplasm. Successively a total body CT scan has been performed, revealing a disease-free target organs and retroperitoneal nodes region, making sure of start promptly a multi-cycle adjuvant carboplatin administration as the goal in the outcome indeed. The surgical intervention, last but not least, has been perceived from the patient as the best treatment possible because he had immediate relief due to the drainage of collection fluid and the psychological awareness of complete malignant bulk removal.

It should be argued in which manner the US echo-Doppler exam didn't reveal the effective problem despite to the easily in exploration and the accuracy in detection, and furthermore how was been possible to miss the vision of the contralateral testicle, maybe due to the squeezed effect by the giant mass on the other one or because the transonic fluid collection created a refractory echoic window, that just up now remaining unsolved.

Conclusion

The main diagnosis in such chronic, acute, benign and malignant scrotal illnesses is achieved in almost all cases by clinical examination and US findings but, in limited dubious cases of subacute or overly large swollen, especially in some cases in which a confuse patient narrative is registered, would be better, before surgery, to deepen the instrumental exams even performing a CT scan to avoid doing misunderstandings and down-treatments, for tailoring surgery on the patient. Otherwise, this clinical case demonstrates what peculiar nature a seminoma neoplasm has on the onset and overall survival, despite the most size the more malignancy as currently reported in the literature. Giant seminomas are been discovered in any part of the body trunk but, when is in the proper anatomical location is too much hard to register such a neoplasm size. Further investigations and cases will have to be reported in an attempt to permit a statistic relevant survey in the future.

References

1. De Luca G, Tromba A, De Luca A, Franzoso L, Aubed A, Serinelli F, et al. One single drug combination of bromelain and Boswellia serrata casperome`: Effects on postoperative edema in open incisional abdominal hernia repair. Prospective randomized clinical trial. Global Surg. 2019.
2. Howlader N, Noone A, Krapcho M, Jones B, Smith J. Surveillance, Epidemiology, and End Results (SEER) Cancer Statistics Review 1975e2013. Bethesda, MD: National Cancer Institute.
3. Wu X, Groves FD, McLaughlin CC, Jemal A, Martin J, Chen VW. Cancer incidence patterns among adolescents and young adults in the United States. Cancer Causes Control. 2005;16:309e20.
4. Keegan TH, Ries LA, Barr RD, Geiger AM, Dahlke DV, Pollock BH, et al. Comparison of cancer survival trends in the United States of adolescents and young adults with those in children and older adults. Cancer. 2016;122:1009e16.
5. Barr RD, Ries LA, Lewis DR, Harlan LC, Keegan TH, Pollock BH, et al. Incidence and incidence trends of the most frequent cancers in adolescent and young adult Americans, including "nonmalignant/noninvasive" tumors. Cancer. 2016;122:1000e8.
6. Stokes W, Amini A, Maroni PD, Kessler ER, Stokes C, Cost CR, et al. Patterns of care and survival outcomes for adolescent and young adult patients with testicular seminoma in the United States: A National Cancer Database analysis. J Pediatr Urol. 2017;13(4):386.e1-386.e7.
7. Wang J, Ou M. Intra-abdominal giant seminoma with lateral cryptorchidism: A successful surgical resection. Am Surg. 2019;85(6):e277-e278.

8. Goto T, Sato S, Koike T, Tsuchida M. Surgical resection of a giant polycystic seminoma of the mediastinum. J Thorac Dis. 2018;10(6):E438-E441.

9. Guo KM, Liu Y, Zhong YP, Wang HL. Giant seminoma in an undescended testicle metastasizing to the neck and liver. Mol Clin Oncol. 2016;4(6):983-5.

10. Hussain S. Torsion of a giant intra-abdominal testicular seminoma presenting as acute abdomen. Indian J Surg. 2015;77(1):64-5.

11. Mihmanlı I, Kantarcı F. Sonography of scrotal abnormalities in adults: An update. Diagn Interv Radiol. 2009;15:64-73.

12. Ragheb D, Higgins JL. Ultrasonography of the scrotum: Technique, anatomy, and pathologic entities. J Ultrasound Med. 2002;21:171-85.

13. Rioja J, Sanchez-Margallo FM, Uson J. Adult hydrocele and spermatocele. BJU Int. 2011;107:1852-64.

14. Lundström KJ, Söderström L, Jernow H, Stattin P, Nordin P. Epidemiology of hydrocele and spermatocele; incidence, treatment and complications. Scand J Urol. 2019;53(2-3):134-8.

15. Kollmannsberger C, Tandstad T, Bedard PL, Cohn-Cedermark G, Chung PW, Jewett MA, et al. Patterns of relapse in patients with clinical stage I testicular cancer managed with active surveillance. J Clin Oncol. 2015;33(1):51-7.

16. Swartz MA, Morgan TM, Krieger JN. Complications of scrotal surgery for benign conditions. Urology. 2007;69:616-9.

17. Jahnson S, Sandblom D, Holmang S. A randomized trial comparing 2 doses of polidocanol sclerotherapy for hydrocele or spermatocele. J Urol. 2011;186:1319-23.

18. Rodriguez WC, Rodriguez DD, Fortuno RF. The operative treatment of hydrocele: A comparison of 4 basic techniques. J Urol. 1981;125:804-5.

19. Ku J, Kim M, Lee N. The excisional, plication and internal drainage techniques: A comparison of the results for idiopathic hydrocele. B J U Int. 2001;87:82-4.

20. Roy CR, Peterson NE. Positive hydrocele cytology accompanying testis seminoma. Urology. 1992;39(3):292-3.

21. Lerner RM, Mevorach RA, Hulbert WC, Rabinowitz R. Color Doppler US in the evaluation of acute scrotal disease. Radiology. 1990;176:355-8.

22. Gallardo Agromayor E, Pena Gomez E, Lopez Rasines G. [Testicular tumors. Echographic findings]. Arch Esp Urol. 1996;49:622-6.

23. Rizvi SAA, Ahmad I, Siddiqui MA, Zaheer S, Ahmad K. Role of color Doppler ultrasonography in evaluation of scrotal swellings pattern of disease in 120 patients with review of literature. Urol J. 2011;8:60-5.