



Neither inguinoscrotal hernia nor hydrocele misunderstood giant testicular neoplasm.

Case report and literature review



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Neither inguinoscrotal hernia nor hydrocele misunderstood giant testicular neoplasm. Case report and literature review.

AIM: This case experience aims to question the current know-how when a masked testicle malignancy occurs, in order to achieve the correct clinical framework and avoid mistakes during surgical procedures. in the evaluation

MATERIALS AND METHODS: A 36-year-old male patient was admitted with an incorrect diagnosis of left-sided incarcerated inguinoscrotal hernia, and then discovered a seminomatous testicular neoplasm matched with a hypertensive ipsilateral hydrocele. Therefore, we performed a radical epididymo-orchietomy and referred the patient to the oncologist for adjuvant chemotherapy after discharge.

RESULTS: The surgery was perceived by the patient as the best possible treatment because the symptoms were relieved.

DISCUSSION: A 36-year-old male patient was admitted to our surgical department due to an incorrect diagnosis of left-sided incarcerated inguinoscrotal hernia, consequently to a misguided scrotal ultrasound-doppler exam. During the urgent surgical operation, we realized that we were dealing with an enormous 17x10x9 cm seminomatous testicular neoplasm matched with a hypertensive ipsilateral hydrocele. Therefore, we performed a radical epididymo-orchietomy and referred the patient to the oncologist for adjuvant chemotherapy after discharge.

CONCLUSION: This case report points out that there may be a poor correlation between clinical findings and patho-physiologic processes affecting scrotal structures. Additional radiological investigations, such as CT scan, could clarify and confirm the clinical scenario, improving the preoperative planning and surgical outcomes.

KEY WORDS: Inguinal Hernia, Seminoma, Testicular Neoplasm.

Introduzione

Testicular neoplasms are some of the most common solid masses among adult men and account for approximately 1% of malignancies, especially in youth and ear-

ly adulthood. Nowadays, giant testicular neoplasms are such a rare condition in Western countries due to their early detection and cure.

Both clinical and ultrasound assessments are not always able to identify subacute scrotal swelling, despite their large use to recognize many pathologies affecting urogenital structures.

This study aims to improve the current knowledge and practice for testicular cancer diagnosis, clinically masqueraded as hernia or hydrocele, in order to differentiate patients and prevent surgical errors.

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Case Experience

A 36-year-old Caucasian male patient was admitted to our general surgery department with a diagnosis of incarcerated inguinoscrotal left-sided hernia, because he complained of a vague pain in his ipsilateral scrotum in the past 72 hours. During the clinical evaluation, he presented a giant, aching and stretched scrotum, with scarce inferior abdominal tenderness, treatable abdomen with audible peristaltic movements, and negative Blumberg sign. No bowel obstruction, diuresis contraction or shock signs were registered at hospitalization. He did not report any history of previous surgical interventions or allergies, but he suffered for a severe maniacal-depressive condition caused by a perinatal cerebropathy for which he was assuming specific medications like benzodiazepines, butyrophenones, atypical antipsychotics, antiepileptics, and tricyclic antidepressants.

Furthermore, he lived in a poor social context and did not have any significant social relationships. His registered BMI was 34.5 kg/m², body temperature was 37.3°C (about 99.1°F), with a detected systemic blood pressure of 140/90 mmHg and a heart rate of 95 bpm. Blood tests showed a slight Gilbert's syndrome, a heterozygosity for Mediterranean anaemia, and an immune sensitivity for HCV antibodies with a normal electrophoretic band pattern; the amount of WBC was 10300/mm³.

The radiologist performed a focused ultrasound reporting a hyperdistention of the scrotal sac with an abun-

dant quote of free transonic fluid and a morphological alteration of the homolateral, hyperechoic testis, well-vascularized at the doppler spectrum, contralateral testis not visible. In light of the alleged diagnosis of hypertensive hydrocele, and due to the fact that ultrasonography assessment was not able to discriminate the aforementioned inguinoscrotal hernia with bowel incarceration, a surgical exploration with an initial trans-scrotal approach was performed.

However, we immediately found, after the evacuation of a 300 ml quote of serous citrine fluid, that no bowel loop was present but instead an irregular solid testicular mass was obstructing the Nuck's canal due to its gigantic size and shape, and was hampering the reabsorption of the serous fluid. For this reason, the surgery procedure was promptly converted into a left radical orchifuniculectomy via inguinoscrotal approach, a *tout-court* lozenge comprehending the previous incision was removed, and also the entire internal scrotal surface of *tunica vaginalis* was peeled away (Fig. 1).

Results

An aspiration drainage system for the scrotal empty cavity was provided for 48 hours after surgery. The prescribed one-shot antibiotic therapy with cefazoline 2 gr/die was prolonged for a total amount of 72h postoperatively. In addition, we administered 2 tablets/die of siben for 30 postoperative days.



Fig. 1: Irregular testicle mass and its spermatic chord (clamped).

No free testosterone dosage was sampled preoperatively. After the second postoperative day, the beta-HCG dosage was 0.1 mU/ml. A postoperative IV contrast-enhanced CT scan of the thorax, abdomen, and pelvis revealed no retroperitoneal pathological node pattern or significant target lesions. The patient was uneventfully discharged on the fourth postoperative day, and eventually referred to the oncologist board for the complementary therapies starting a 6-cycle Carboplatin adjuvant administration. The histopathological specimen exam revealed a testis completely replaced by an immune-phenotypical pattern of giant seminomatous germ cell neoplasm of 10x9x17 cm with inner necro-hemorrhagic and fibro-sclerotic bands with endovasal and albuginea invasion, a stage of pT2 - Nx - Mx, placental alkaline phosphatase/CD117 positive, and negative alpha-FP/CKAE1/AE3.

Discussion

Testicular neoplasms are some of the most common solid masses among sexual developed men and account for approximately 1% of malignancies, especially in youth and early adulthood ^{1,2}. This histotype of cancer, of which malignant germ-cells account for approximately 90-95%, can be divided into primary germ-cell, also known as seminomatous and non-seminomatous, and other primary and secondary tumours.

Survival outcomes are generally good with a 5-year survival rate of over 90% ^{3,4,14}, though the reported incidence is increasing ⁵.

Hydrocele is a pathological collection of free citrine fluid between the inner layer of *tunica vaginalis*, and is the most common cause of painless scrotal swelling ^{10,11}. It is quite common in urological practice and accounts for at least 1-10% of adult male patients.

The treatment of testicular neoplasms takes into account several considerations. After a via inguinoscrotal radical epididymo-orchietomy, almost all patients are addressed to an active surveillance strategy for the next three years because of the related risk of occult metastases occurring in 15-20% of stage I seminomatous pattern, whereas in the remaining cases adjuvant chemotherapy and radiotherapy are provided ¹⁴.

The treatment of choice for hydrocele is still debated, including both surgery and aspiration with sclerotherapy, although postoperative complications are reported. In current medical practice, an urgent patient presenting a painful subacute scrotal swollen undergoes clinical examination and ultrasound assessment, in order to choose the most adequate treatment. In this particular case report, taking into account that no signs of bowel obstruction were registered, the decision-making process was erroneously influenced by poor patient interaction due to existing psychiatric comorbidities and a misdiagnostic ultrasound assessment, considering especially that the hydrocele reabsorption was sustained by mass oblit-

eration of the inguinal canal of Nuck. To our knowledge, no similar clinical cases have been reported in the literature, probably due to such a rare condition of coexistence of hypertensive hydrocele sustained by a giant testicular neoplasm. We think that the surgical treatment was adequate in a such peculiar urgent scenario, due to the complete asportation of primary mass via inguinoscrotomy, as well as the lozenge, comprehending the former incision and the peeling of the inner scrotal *tunica vaginalis*, in an attempt to guarantee a resective R0 surgery, and also for promptly referring the patient to the oncologist. Postoperative IV contrast-enhanced CT scan of the thorax, abdomen, and pelvis did not reveal any pathological findings, and timely initiation of multi-cycle adjuvant carboplatin administrations was ensured. The surgery was perceived by the patient as the best possible treatment because the symptoms were relieved.

Conclusion

The main diagnosis of such chronic, acute, benign and malignant scrotal diseases is usually obtained in almost all cases through a clinical examination and ultrasound findings. However, in doubtful cases of subacute or excessively large scrotal swelling before surgery, clinicians should deepen the instrumental investigations by performing a CT scan with IV contrast in order to avoid misdiagnosis and down-treatments. This clinical case demonstrates the peculiar nature of a seminomatous neoplasm at the onset and regarding the overall survival, nonetheless, the fact that almost all neoplasms are diagnosed early, and that the tumour the bigger the more malignant should be, according to the literature. Further investigations and cases should be reported to provide statistically relevant data in the future.

Riassunto

Le neoplasie testicolari, comuni tra gli uomini adulti, rappresentano circa l'1% dei tumori maligni, specialmente nella giovinezza e nella prima età adulta.

Le valutazioni cliniche ed ecografiche non sono sempre in grado di identificare il gonfiore scrotale subacuto.

Questo manoscritto, basato su revisione della letteratura e case experience, ha come obiettivo migliorare le attuali conoscenze e pratiche per la diagnosi del cancro ai testicoli, clinicamente mascherato da ernia o idrocele, al fine di differenziare i pazienti e prevenire errori chirurgici.

Nella fattispecie il caso tratta di un paziente, m, 36 anni lamentava di un vago dolore allo scroto omolaterale nelle ultime 72 ore, è stato ricoverato presso il reparto di Chirurgia Generale dell'ospedale San Pio di Castellaneta (TA), con una diagnosi di ernia inguino-scrotale sinistra. Durante la valutazione clinica, ha presentato uno scro-

to rigonfiato, dolorante e allungato, con scarsa dolorabilità addominale inferiore, addome trattabile con movimenti peristaltici udibili e segno di Blumberg negativo. Nessuna ostruzione intestinale, contrazione della diuresi o segni di shock sono stati registrati al momento del ricovero. Il radiologo ha eseguito un'ecografia focalizzata riportando una iperdistensione del sacco scrotale con abbondante liquido transonico libero e un'alterazione morfologica del testicolo omolaterale, iperecogeno, ben vascolarizzato allo spettro doppler, testicolo controlaterale non visibile. Alla luce della presunta diagnosi di idrocele ipertensivo, è stata eseguita un'esplorazione chirurgica con un approccio trans-scrotale iniziale, durante la quale si è scoperta invece una massa testicolare solida irregolare ostruiva il canale di Nuck a causa delle sue dimensioni e forma ostacolava il riassorbimento del liquido sieroso. È stata quindi eseguita un'orchifunicolectomia radicale sinistra tramite inguinotomia, è stata rimossa una pastiglia tout-court comprendente l'incisione precedente e anche l'intera superficie scrotale interna della tunica vaginale (Fig. 1).

Un sistema di drenaggio di aspirazione per la cavità vuota scrotale è stato fornito per 48 ore dopo l'intervento. Con terapia antibiotica cefazolina 2 gr/die per un totale di 72 ore dopo l'intervento.

Dopo il secondo giorno postoperatorio, il dosaggio di beta-HCG è stato di 0,1 mU/ml. Una TAC postoperatoria IV con mezzo di contrasto del torace, dell'addome e della pelvi non ha rivelato alcun pattern patologico retroperitoneale o lesioni target significative.

Il paziente è stato dimesso senza incidenti il quarto giorno postoperatorio e alla fine è stato indirizzato al team oncologico per la somministrazione della terapia adiuvante di carboplatino, 6 cicli. L'esame istopatologico del campione ha rivelato un pattern immuno-fenotipico di neoplasia seminomatosa a cellule germinali di 10x9x17 cm con bande necro-emorragiche e fibro-sclerotiche interne con invasione endovasale e albuginea, stadio di pT2 - Nx - Mx, fosfatasi alcalina placentare/CD117 positiva e alfa-FP/CKAE1/AE3 negativa. Nella pratica medica corrente, un paziente che presenta in urgenza un gonfiore scrotale subacuto doloroso viene sottoposto a esame clinico e valutazione ecografica, al fine di scegliere il trattamento più adeguato. In questo particolare caso clinico, tenendo conto che non sono stati registrati segni di ostruzione intestinale, il processo decisionale è stato erroneamente influenzato da una scarsa interazione del paziente a causa delle comorbidità psichiatriche esistenti e da una valutazione ecografica errata.

A nostra conoscenza, non sono stati riportati casi clinici simili in letteratura, probabilmente dovuti ad una così rara condizione di coesistenza di idrocele ipertensivo sostenuta da una neoplasia testicolare gigante. Riteniamo che il trattamento chirurgico sia stato adeguato in uno scenario urgente così peculiare, dovuto alla completa asportazione della massa primaria tramite inguinotomia. L'intervento chirurgico è stato percepito dal paziente

come il miglior trattamento possibile perché i sintomi sono stati alleviati. In conclusione, la diagnosi di tali malattie scrotali croniche, acute, benigne e maligne è di solito ottenuta in quasi tutti i casi attraverso un esame clinico e risultati ecografici. Tuttavia, nei casi dubbi di gonfiore scrotale subacuto o eccessivamente grande prima dell'intervento chirurgico, i medici dovrebbero approfondire le indagini strumentali eseguendo una TAC con contrasto IV al fine di evitare diagnosi errate e trattamenti di down.

Questo caso clinico dimostra la natura peculiare di una neoplasia seminomatosa all'esordio e per quanto riguarda la sopravvivenza globale, il fatto che quasi tutte le neoplasie sono diagnosticate precocemente, e che il tumore più grande dovrebbe essere il più maligno, secondo la letteratura. Ulteriori indagini e casi dovrebbero essere segnalati per fornire dati statisticamente rilevanti in futuro.

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