

TESTICLE TRAUMA, VIEWED AS AN EMERGENCY IN THE EMERGENCY ROOM

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Abstract: Referring to emergency trauma, the injury of the uro-genital system is extremely rare in terms of incidence. Especially reported to the uro-genital system, testicle trauma represents a special category, because of the extremely rare cases encountered in our practice and also because of the diagnosis algorithm, which dictates most of the times the subsequent medical treatment. A four-year study in the emergency room, revealed some aspects that need special attention. In testicle trauma, the study also emphasizes the importance and the place of echography examination.

Keywords: trauma, testicle, uro-genital, study, emergency, clinical, echography

Rezumat: În contextul traumatologiei de urgență, afectarea aparatului uro-genital se situează la extrema rarității ca incidență; raportat strict la aparatul urogenital, traumatismul testicular reprezintă o categorie deosebită, atât datorită cazurilor extrem de rare întâlnite în practică dar și din punct de vedere al algoritmului diagnostic al acestuia, algoritm ce dictează în mare măsură conduita terapeutică ulterioară. Un studiu realizat pe parcursul a patru ani la camera de gardă, a scos în evidență câteva aspecte care necesită o atenție deosebită. Studiul mai reliefează importanța și locul examenului ecografic în traumatismele testiculare.

Cuvinte cheie: traumatism, testicul, uro-genital, studiu, urgență, clinic, ecografie.

INTRODUCTION

Defined as male genital gland, (3) the testicle is the place of sperm and hormones production, printing male sexual characters; production of sperm is located at contorts seminifers tubes, while the production of hormones has its headquarter in interstitial cells of testicular parenchyma. Any injury at this level may interfere these processes with consequences on the endocrine, physiological and psychological affect on that.

Trauma may affect scrotal structures and their content.(2) Mobility of these organs explains the small frequency of lesions at this level(exception to this rule are ectopic testicles), lesions that can be closed-contusions, or open-wounds and can be caused by direct action of an vulnerable agent as happens in a body falls on hard shot with the leg, crushing between two plans (sports, road accidents or work accidents). Wound may occur by poke,

cutting or explosion. Scrotal contusion determines haematomas which are located intrascrotal or in vaginal cavity (haematocaellum).

According to the Monod classification, testicular lesions can be systematized as follows:

- simple contusion, wich is not affecting seminals tubes(I Degree);
- contusion complicated with the lesion of seminals tubes(II Degree);
- testicle break with albuginea affect (III Degree).Epididim and spermatic funicle contusion produced complete or partials desinsertions of testicular epididium, with vascular lesions that can go up to funicle-scrotum haematomas.

The breakage of testicle may cause:

- seminal pulp hernia;
- haematocellum(blood in the vaginal cavity).

Clinically, testicle affection determines subjectively algic syndrome, which is characteristic and dominates the event, and in terms of objective way, important traumatic sign with different degrees of manifestation, depending on the type of injury.

The methods of clinical examination of testicle are reduced to palpation and translumination.(1)

Echography is the elective method of imagining investigation, due to its advantages;the radiologic examination and Computer Tomography (CT) are not used, interfering spermatogenesis. To investigate the testicle vascularisation, the ultrasound colour Doppler and Power Doppler are helpful, highlighting testicular arteries-cremasteric and the differential artery, panpiniform plexus, testicular and spermatic vein. Magnetic Resonance Imaging (MRI) provides the most accurate information, but ultrasonography remains the most appropriate method, because of its specific advantages (accessibility, low cost, high diagnostic value, repeatability in monitoring clinical-evolutionary).

Paired organs, located in scrotal bursa, the testicles are readily accessible clinical examination (5) and ultrasound. Ultrasound examination indications are clear: any change in volume of the bag or scrotal contents of uni-or bilaterally installed suddenly or slowly, scrotal trauma, scrotal collections, suspected tumour or scrotal lesions mistreated, if suspected testicular tumour, it is necessary and abdominal ultrasound to detect possible

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metastases(4). Do not forget that any formation located inside of testicular contour (as albuginea) must be considered as being malign till the opposite is proved, and any formation of replacement space lying outside albuginea may be considered as benign (except forms scrotal cancer).

PURPOSE OF THE STUDY

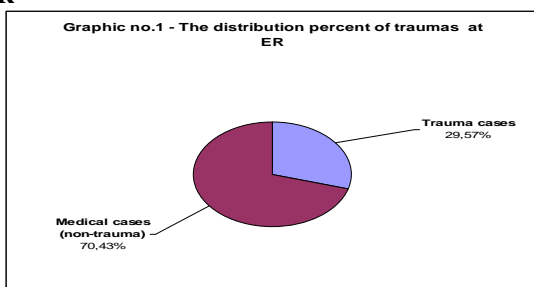
The study assesses the weight and the characteristics of the testicle trauma in the emergency room.

MATERIAL AND METHOD

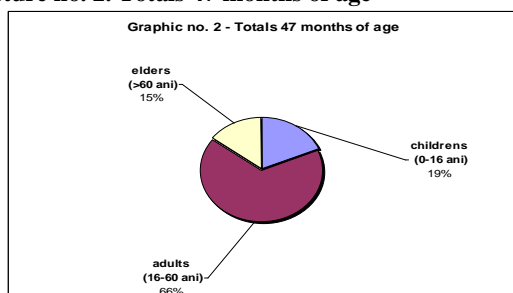
Statistical research conducted over a period of four years (1 January 2004-31 December 2007) at the Unit Receive Emergencies-Hospital Dr. A. Simionescu Hunedoara, followed 99.791 consultations as a matter of urgency; of these, 29.425 were cases of surgery-traumatology, with a maximum distribution of age groups in the group 16-60 years.

RESULTS AND DISCUSSIONS

Picture no. 1. The distribution percent of trauma at ER

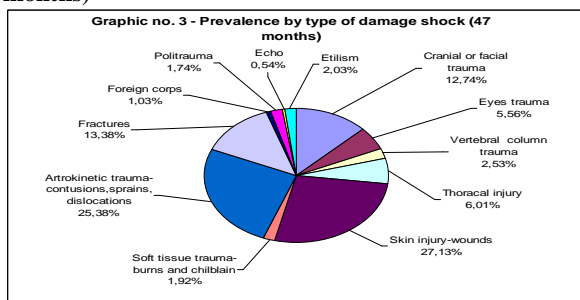


Picture no. 2. Totals 47 months of age



Function of the type of affected organ by injury, we can present our statistics in that formula:

Picture no 3. Prevalence by type of damage shock (47 months)



Of the total cases of impaired traumatology bag and scrotal testicles percentage value is practically insignificant in relation to total

List no.1

Testiculare traumas

Wounds	23
Contusions	31
TOTAL	54

Although very few in number, testicular traumas, however requires a clinical examination and refinement of laboratory examination by ultrasound excellence in order to properly reveal the anatomical integrity or impaired testicular: during the study programme, in UPU were done the following paraclinical investigations in the testicular trauma:

List no.2

Paraclinical investigations in the testicular trauma

X-Rays	2044
Ultrasound exam	180
Hematology	966

Imaging shows that the overwhelming calls Radiology exam, but the cast can not be considered absolute because damage prevalent musculo-skeletal system artrokinetic, which is frequently targeted, ultrasounds remains in this context, a source of very valuable information for abdominal trauma, politraumas with suspected concomitant visceral involvement, or in this case, testicular trauma.

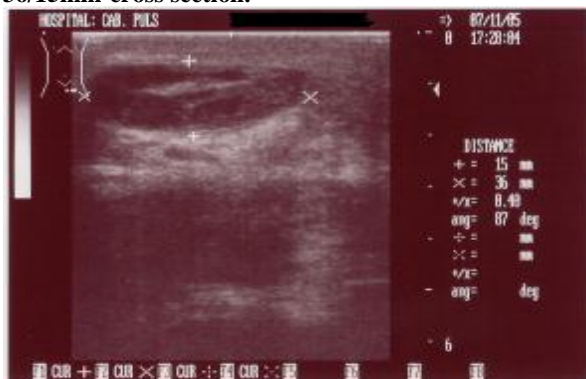
Next, we will present some short review of ultrasound images:

Picture no. 1-Testicular contusion: in the superior part we can see an area with an ecogenitty less small than usual compared to the homogeneous structure of parenhyma which is accompanied by albuginea cessation contour-cross section.



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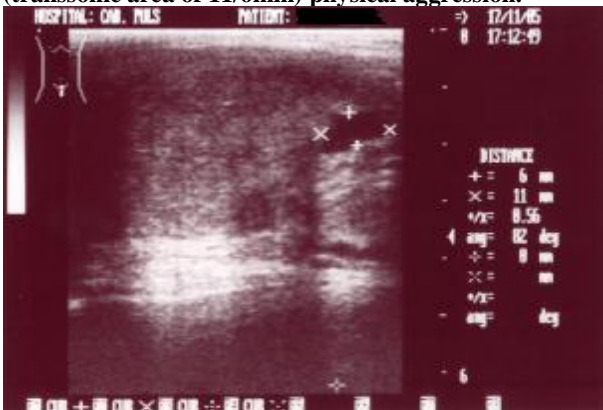
Picture no. 2. Hematoma lower left testicle pole, in first 24 hours of production; transonic area with echoes inside (tendency to organize) with size of 36/15mm-cross section.



Picture no. 3. Hematoma lower left testicle pole-Physical aggression; longitudinal section; at the bottom shows an elipsoidal trend 15/8mm well-demarcated, transsonical with sound reinforcement haematoma in the posterior-observation post in 10 days after trauma. Observed slow resorption, reducing the collection size.



Picture no. 4. Dissociation of testicular parenchyma (discontinuities observed structure scratchy parenchyma) with higher polar haematoma (transsonic area of 11/6mm) physical aggression.



CONCLUSIONS

- testicular trauma are extremely rare, reported the overall incidence of trauma;
- they are more frequent on adults; on infants predominates ectopic testicular: predominates in the elderly are tumour pathology. Trauma may evolve, after investigation, a tumoral process unknown before!
- of adult age group affected most commonly is involved decade 20-30 years old;
- testicular traumas are most produced by physical aggression and sports injuries or less fall through „horse”;
- ultrasound is currently the elective method of imaging in testicular trauma;
- the investigations of testicle trauma are not exhaustive, and ultrasound is necessary sufficient in developing diagnosis;
- the highest incidence of testicular trauma match 20-24 hours and overlaps interval around the maximum incidence of physical aggression.

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