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ANORECTAL TRAUMA AFTER BLUNT PELVIC TRAUMA: CASE REPORT AND LITERATURE REVIEW

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ABSTRACT

INTRODUCTION: Anorretal trauma is a complex pathology with multiple causes, such as penetrating injuries, blunt trauma and iatrogenic causes. Although conducted in the secondary assessment of the polytraumatized victim, it is of great importance due to the potential for progression to serious complications. Perineal lesions can affect the anorretal sphincter apparatus and the coloproctological system, due to anatomical and functional alterations, such as fecal incontinence. Case report: Male patient, 33 years old, admitted to the emergency unit due to multiple trauma due to a collision. During the evaluation, direct quadril dislocation was evidenced, associated with an extensive direct perineal laceration, with extension to the middle gluteal region, with anocutaneous detachment in 70% of the circumference and exposure of the internal anal sphincter. Opted for debridement and local cleaning, followed by separate composite suturing in two planes. A satisfactory evolution has been achieved, with infectious control and without the need for early reintervention. From a functional point of view, there is no definition of the sphincter sequelae due to the neurological quadro installed. Discuss: Dor pelvica, obstipação, tenesmo and bleeding remnants são queixas recounted in emergencies in their most diverse presentations. The patient must be submitted to primary assessment for hemodynamic stabilization and diagnosis of lesions that demand immediate addressing, and subsequently, anorhetal trauma may be better addressed. Regarding the management of extraperitoneal retinal trauma, primary raffia and diversion of intestinal transit can be attempted in cases of impossibility of access or in cases of rock raffia. Small perineal lesions can be addressed with primary repair, but extensive lesions generally require delayed sphincter reconstruction.

Keywords: Anorectal trauma; Fecal incontinence; Perineal injury; Colostomy; Pelvic trauma

INTRODUCTION

Anorectal and perineal traumatic injuries are complex pathologies that require constant attention in emergency services due to the frequent and severe complications that can result from improper treatment. These injuries can occur due to various causes, including penetrating wounds (56%), primarily from firearms or sharp objects, or blunt traumas (44%), most commonly from traffic accidents (42%), falls from great heights (16%), and foreign objects (1%), such as impalement. They can also be of iatrogenic origin, caused by obstetric procedures or during anorectal procedures. These injuries may also be associated with other injuries of varying degrees, such as orthopedic, genitourinary, and intra-abdominal organ traumas. They have an incidence of 1 to 3% in trauma centers, predominantly affecting males between the ages of 20 and 40.[1]

These injuries are typically identified and addressed, in the vast majority of cases, during the secondary evaluation of a polytrauma patient. They are of great importance due to their variable presentations and potential to evolve into severe complications.[2] During the clinical assessment of anorectal injuries, the etiology of the trauma, the time elapsed since the injury,

associated injuries, symptoms, and clinical presentation must all be considered. Depending on the patient's hemodynamic stability, the appropriate complementary method will be chosen, with computed tomography being the most commonly used due to its utility in evaluating polytrauma patients and its wide availability in emergency services.[3]

The clinical spectrum of these injuries is diverse, depending on their location, which may predominantly involve the perineum, causing damage to soft tissues and pelvic support, or primarily affect the rectum, with or without concomitant intraperitoneal involvement.[4] Perineal injuries can impact the anorectal sphincter complex, subsequently compromising the entire coloproctological system due to significant anatomical and functional alterations, such as fecal incontinence.[5]

CASE REPORT

A 33-year-old male patient was admitted to the emergency unit following a polytrauma incident caused by being struck by a car. He was admitted under orotracheal intubation due to a decreased level of consciousness at the rescue site, with severe traumatic brain injury and suspected significant musculoskeletal trauma, evidenced by visible internal rotation of the right lower limb, accompanied by signs of reversible ischemia in the limb. During the institutional protocol evaluation, a posterior dislocation of the right hip was identified, associated with an extensive ipsilateral perineal laceration, without active bleeding or other alarm signs. After a closed reduction of the limb in a sterile environment in the resuscitation room, adequate limb perfusion was restored. Once brain and abdominal injuries requiring emergency surgical intervention were ruled out, the patient was taken to the operating room for urgent drainage of a moderate pneumothorax on the right side and further assessment of perineal injuries.

During the exploration of the wounds, an extensive perineal injury on the right side was found, extending to the right mid-gluteal region and up to the scrotal raphe, with 70% of the anorectal circumference detached, along with muscular exposure of the right internal anal sphincter, including a 4 cm deep muscular laceration. A digital rectal examination and anoscopy were performed without evidence of lower rectal injuries. The medical team opted for debridement and local cleaning, followed by suturing with separate stitches using 3-0 Chromic Catgut absorbable suture in two layers—the first layer for approximation of the skin, subcutaneous tissue, and musculature, and the second between the skin and rectal mucosa, with partial edge approximation and coaptation, leaving areas for spontaneous local drainage.

The patient's postoperative course was managed in an intensive care unit due to neurological conditions. In subsequent surgical evaluations, he showed satisfactory progress from an infectious standpoint, without developing complications such as an ischiorectal anorectal abscess, which could have been treated by reopening sutures to facilitate drainage. Functionally, the patient began to have spontaneous bowel movements 8 days after surgery, concurrent with improvements in hemodynamic and neurological status. He experienced alternating liquid and pasty stools in 3 to 5 moderate episodes daily, with progressive improvement until discharge on the 20th postoperative day, at which point he had 2 to 3 pasty stool episodes daily. Due to the established neurological condition, the patient continues to experience motor, sensory, and cognitive deficits, with a lack of sphincter control, both fecal and urinary. This makes it challenging to assess the degree of incontinence associated with the complex perineal injury; however, a therapeutic approach involving pelvic physiotherapy is indicated.

Figures 1 and 2 – Record of the 7th postoperative day.

DISCUSSION

Traumas affecting the anus and lower rectum are rare due to the anatomical position of these organs. However, they present a challenge due to their high morbidity and mortality rates, ranging from 3 to 10%, and possible postoperative complications of up to 21%. Anatomically, the anorectal region is protected by the thighs, the pelvic bone structure, and the roots of the lower limbs, which can complicate diagnosis. Therefore, a high level of suspicion is required.[1] Although the use of a rectal examination is considered for determining possible associated injuries during the primary and secondary assessments of polytrauma patients, approximately 77% of these injuries go unnoticed. [6]

Abdominal or pelvic pain, constipation, tenesmus, and rectal bleeding are complaints often reported in the emergency room in various presentations. The diagnostic approach includes digital rectal examination, anoscopy under anesthesia, sigmoidoscopy, and triple-contrast abdominal and pelvic tomography, with the latter being the standard method as long as the patient is hemodynamically stable.[1]

The patient should first undergo primary assessment for hemodynamic stabilization and diagnosis of injuries requiring immediate intervention, following the ABCDE protocol of ATLS (Advanced Trauma Life Support). Subsequently, during the secondary assessment, the anorectal trauma can be more thoroughly addressed. Injuries can be classified using the American Association for the Surgery of Trauma (AAST) scale to determine severity and guide management decisions.[7]

Table 1 - Classification of the American Association for the Surgery of Trauma (AAST)

Rectum Injury Scale

Grade*	Type of Injury	Description of Injury	CID-9	AIS-90
I	Hematoma	Contusion or hematoma without devascularization	863.45	2
	Laceration	Partial thickness laceration	863.45	2
II	Laceration	Laceration < 50% of the circumference	863.55	3
III	Laceration	Laceration > 50% of the circumference	863.55	4
IV	Laceration	Full thickness laceration with extension to the perineum	863.55	5
V	Vascular	Devitalized segment	863.55	5

Grade III lacerations with multiple lesions should be advanced to Grade III
[5]; with permission

Treatment recommendations are categorized into three groups based on the type of rectal trauma: intraperitoneal, extraperitoneal, and rectal and/or anal.[8] Intraperitoneal injuries are managed similarly to colon injuries. If intestinal diversion is needed, it should be performed near the injury, preferably with a loop stoma, with intraoperative maturation. For rectal trauma, debridement of the wound is recommended, along with repair of the rectal injury via the transanal approach for lower rectum injuries and the transabdominal approach for upper rectum injuries. Intestinal diversion may be necessary in cases where the injury cannot be primarily repaired, there is gross contamination, hemodynamic instability, late injury, or other factors compromising the safety of primary repair.[9] In some cases, presacral drainage and/or distal rectal lavage may be required. These maneuvers, which are no longer routinely indicated, should be used as needed.[10]

In anal trauma with sphincter involvement, it is important to initially determine whether there is an associated concomitant rectal injury and, consequently, perform primary or delayed repair, with or without fecal diversion. There is a lack of current information regarding traumatic damage to the anal sphincter and its reconstruction, making it difficult to establish clear recommendations. Anal sphincter injuries should be evaluated within the patient's clinical and hemodynamic context. In patients with hemodynamic instability requiring evaluation and management of vital organ damage, the assessment of sphincter apparatus damage should be evaluated later.[6] Extensive perineal soft tissue injuries should be treated with a diverting colostomy, and primary reconstruction of the compromised sphincter and perineal tissues should be attempted when there is no infection or necrosis. Perineal injuries may be associated with genitourinary injuries, which should be actively investigated and included in the therapeutic plan when present.[3]

The most common complications following surgical correction of anal sphincter injuries are suture dehiscence, fistulas, strictures, and erratic healing with delayed closure. For extensive perineal defects, various methods such as healing by secondary intention, negative pressure therapy, and skin grafts are used. However, reconstruction with tissue flaps is preferred, which may include regional flaps or pedicled flaps from the thigh, gluteal region, or abdomen.[11]

In patients who cannot regain continence through non-surgical methods, advanced techniques such as graciloplasty, dynamic graciloplasty, artificial sphincters, or magnetic anal sphincters, among others, are employed.[11]

CONCLUSION

Accidental anorectal trauma is rare and often associated with severe injuries. It requires early therapeutic planning to avoid future complications. Surgical management, including debridement of devitalized tissue, repair of the anorectal mucosa, and primary closure of sphincter defects, is recommended by the limited existing literature when feasible.

The primary objectives of treatment are to control potentially fatal injuries, minimize infections, and preserve anal sphincter function.

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