Editorial

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Abdominal Blunt Trauma and its Treatment

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Description

Blunt trauma, also known as blunt force trauma or non-penetrating trauma, is physical trauma to a bodily component that occurs frequently in car accidents, direct blows, assaults, sports injuries, and especially in the elderly who fall. Penetrating trauma, on the other hand, happens when an object pierces the skin and enters a body tissue, resulting in an open wound and bruise.

The most prevalent type of Blunt trauma is Blunt abdominal trauma (BAT), which accounts for 75% of all blunt traumas. Depending on the force applied, 75 percent of BAT occur in motor vehicle accidents, in which rapid deceleration propels the driver into the steering wheel, dashboard, or seatbelt, causing contusions in less serious cases or internal organ rupture from briefly increased intraluminal pressure in more serious cases. At first, there may be minimal signs of a major internal abdominal injury, making diagnosis more difficult and necessitating a high level of clinical suspicion.

Compression and deceleration are the two primary physical mechanisms at work when it comes to the risk of harm to intra-abdominal organs. A direct blow, such as a punch, or compression against a non-yielding object, such as a seat belt or steering column, causes the former. This force has the potential to distort a hollow organ, raising intraluminal or internal pressure and causing rupture.

Deceleration, on the other hand, generates stretching and shearing where movable abdominal contents, such as bowel, are anchored. This can result in tearing of the bowel's mesentery and harm to the blood vessels that run through it. The liver and spleen are the most commonly affected organs when forceful abdominal trauma is exacerbated by 'internal injury,' followed by the small intestine.

Medical treatments such as the Heimlich manoeuvre, attempts at CPR, and physical thrusts to open an airway have been linked to this damage in rare circumstances. Although these are uncommon occurrences, it has been proposed that they are caused by using too much force when conducting these life-saving methods.

Signs and symptoms

Early signs and symptoms are not visible, but after a few days, initial pain is noticeable. The "seat belt sign," bruising on the belly along the region of the lap section of the safety belt, is associated with a high rate of harm to the abdominal organs in people wounded in motor vehicle collisions. Seatbelts can also cause abrasions and hematomas; up to 30% of patients who have these symptoms also have internal injuries. Nausea, vomiting, blood in the urine, and fever are all early signs of abdominal trauma. Abdominal pain, tenderness, distension, or rigidity to the touch may accompany the injury, and bowel sounds may be decreased.

The contraction of the abdominal wall muscles, protect the inflammatory organs within the abdomen is known as abdominal guarding. Pneumoperitoneum, or air or gas in the abdominal cavity, could indicate a hollow organ rupture. Dissection (the protrusion of internal organs out of a wound) may occur in penetrating injuries. Rib fractures, vertebral fractures, pelvic fractures, and abdominal wall injuries are all common injuries related with intra-abdominal trauma.

Treatment

Abdominal trauma requires immediate medical attention and, in some cases, hospitalisation. The first step in therapy is to stabilise the patient enough to assure proper airway, breathing, and circulation, as well as to identify any other injuries. Injured organs may require surgery to be repaired. People with penetrating injuries and indications of peritonitis or shock may require surgical examination. When an abdominal injury generates a substantial, potentially fatal bleed, a laparotomy is frequently performed.

Before moving on to any conclusive, detect and fix any injuries discovered, the foremost priority is to halt any sources of bleeding. Because of the time-sensitive nature of this treatment, it stresses speed in terms of gaining access and managing bleeding, hence a long midline incision is preferred. Nonoperative treatment of intra-abdominal injuries is also common because there is no benefit if there is no known ongoing bleeding or infection risk. Because CT scanning can uncover injuries that can be managed conservatively and rule out other injuries that require surgery, care providers can utilise less surgery. Intensive care may or may not be required depending on the injuries.