A SEVERED KIDNEY AS A RESULT OF BLUNT TRAUMA IN A HIGH SCHOOL FOOTBALL PLAYER
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The purpose of this clinical case study is three-fold. One purpose of this study is to inform certified athletic trainers, sports medicine personnel, and those persons involved with contact sports of the signs and symptoms of a severed kidney. A second purpose of this study is to recognize that blunt trauma to the flank (the posterolateral portion of the upper lumbar and lower thoracic region) in contact sports, especially football, could potentially be life threatening due to kidney involvement. The third purpose of this study is to make the public aware that seemingly minor injuries may be more significant, and even potentially life threatening, than they seem. A 15 year old, junior varsity, high school football player was running with the football when an opposing player tackled him from the left side. The athlete was down on the field in apparent pain. As the certified athletic trainer approached the athlete on the field, the athlete got up and walked toward the certified athletic trainer. The athlete complained of significant pain at the abdominal area and moderate pain at the left flank area. The certified athletic trainer instructed the athlete to lie down in order to be evaluated. After lying down, the athlete complained of difficulty breathing and an urge to urinate. The athlete communicated these complaints in a calm manner with no signs of distress. At the time of initial evaluation, all of the athlete’s vital signs were normal. No signs or symptoms of muscle rigidity, rebound tenderness or sharp pain were present. At this point, the athlete did not complain of low back or kidney pain, however, he was point tender at the left flank and abdominals. The athlete was transported to the hospital immediately by the on-site ambulance. In the ambulance, the athlete exhibited hematuria, urinating approximately 250 cc of dark red urine and blood. Initial differential diagnoses included thoracolumbar spasm, abdominal pain, kidney contusion, and renal laceration or fracture. At the hospital, a computed tomography (CT) scan was administered, and it was at this point that the athlete’s vital signs rapidly deteriorated. The CT revealed a severed left kidney, which was hemorrhaging considerably. Through emergency surgery, a left nephrectomy was performed. The athlete recovered fully and was cleared by his physician three months later to compete on the high school’s varsity basketball team. The athlete, however, was no longer allowed to participate in football. Since his nephrectomy, the athlete has not had any complications. The emergency room physician concluded that the athlete’s deteriorating vital signs were masked at the time of injury and during transport to the hospital by the beta blocker medication that the athlete was taking for another systemic condition. Likewise, the severing of the kidney most likely occurred in this athlete due to his very low body fat percentage and lack of internal kidney support (mesentery). When a single blunt force to the posterolateral portion of the upper lumbar and lower thoracic region occurs, resulting in signs and symptoms of pain and point tenderness in the contact area along with the desire to urinate, a kidney contusion is often suspected. However in this case, the athlete’s physical attributes along with the manner in which the force was applied lead to a severed kidney, creating a life-threatening situation. The athlete was first suspected to have a minor injury exhibiting muscular spasm and pain, but the signs and symptoms later suggested otherwise. This clinical case study reflects the importance of scrutinizing the signs and symptoms of seemingly minor injuries, especially when the potential for organ involvement exists. In fact, these minor injuries may be more significant than they seem, and may even be life threatening. Severed kidney, renal fracture, nephrectomy, hematuria.