

## **Anorectal avulsion: report of a rare case of rectal injury**

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Blunt rectal injuries are very uncommon forming 4-11% of all rectal injuries and the rest are accounted for by penetrating rectal trauma [1]. Anorectal avulsion is a rare rectal injury [2].

A 30-year-old male admitted after a motorcycle accident with history of being partly runover by a vehicle over the right side of his pelvis with no history of impalement was found to have right superior and inferior pubic ramus and right T11 transverse process fractures with no chest, abdominal or bladder injuries. He had soft tissue injuries with a large hematoma over his right lateral thigh treated with aspirations. On resurvey in 72 h an inspection of his anus revealed patulous opening with bleeding and feculent material. Digital examination revealed complete avulsion of the anorectal complex from the anal opening at the skin lying above at a distance of around 12 cm with a large cavity below including both ischiorectal fossae (Fig. 1A, 1B). The stump was also separated from the lower sacrum and coccyx (Fig. 1B, 2B). Both the levator ani were exposed but intact with the anorectum surrounded by the anal sphincter and puborectal muscle which appeared intact but with obvious loss of attachments and no tone (Fig. 2A, 2B). No direct suture was possible because of the retracted stump and infected cavity. A diverting sigmoid loop colostomy was



**Figure 1** Plain CT scan abdomen (A) coronal section demonstrating intact levator ani, avulsed anorectal stump, ischio-rectal fossae with traumatic cavity (medial arrows) and abscess cavity right thigh (lateral arrow) (B) sagittal section demonstrating avulsed anorectal stump separated from lower sacrum and coccyx (top arrow) with cavity below (middle arrow) with tube exiting at skin level (lower arrow)

performed and the anorectal stump was intubated with distal loop washouts, debridements and dressing changes. Right thigh hematoma was infected after a few weeks and drained revealing communication with the perineal cavity through the posterior thigh compartment. Ischio-rectal and thigh wound healing by secondary intention was awaited. Patient was transferred after 4 weeks to another hospital because of financial constraints and lost to follow up. Digital exams still revealed patulous distal anorectal stump with no tone before transfer but no analysis with manometry was performed.

Anorectal avulsion is a rare case of rectal injury with only a few case reports available in the literature [2-4]. The mechanism of the injury is that crushing of the pelvis causes a reduction in its anteroposterior diameter and corresponding increase in its laterolateral diameter together with an abrupt increase in intraabdominal pressure [3]. The anus and sphincter lose their joining with the perineum because of divarication of the levator ani and are pulled upward and ventrally disrupting tissues in both ischio-rectal fossae [4] which can also affect muscles of the thigh as seen in our case. Treatment is not standardized. Direct repair is reported if detected early but is a major undertaking [3]. It is usually not possible due to

large loss of substance, high lying avulsed stump and high risk of infection. Healing is allowed by secondary intention and resulting gap can be covered with advancement flaps [4]. Long-term prognosis is good if the sphincter complex is intact around the anal canal after avulsion and though it remains displaced superiorly, anal canal length and resting pressure can be improved after pelvic floor rehabilitation and the diverting colostomy closed without significant complications [4].

## References

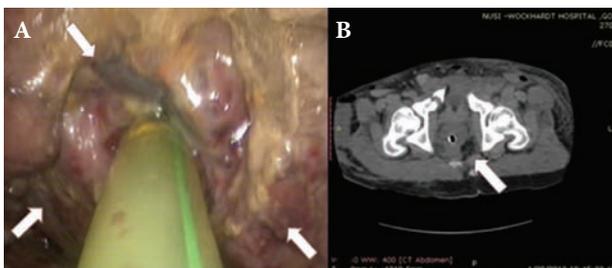
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**Figure 2** (A) Intracavity photograph of avulsed anorectal stump, part of skin avulsed seen attached to anal canal (top arrow), surrounded by the anal sphincter and puborectal muscle with exposed levator ani both sides (both lower arrows). (B) Corresponding plain CT scan abdomen horizontal section demonstrating avulsed anorectal stump separated from the sacrum