Persistent rectal pain after rectosimoidectomy. Case report*

Dor retal persistente após retossigmoidectomia. Relato de caso

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SUMMARY

BACKGROUND AND OBJECTIVES: Postoperative chronic abdominal pain still lacks pathophysiological studies, being described after Cesarean section, inguinal hernia, videolaparoscopy and cholecystectomy. In lower abdomen, chronic proctalgia has been described after hemorrhoidectomy and is characterized as pain at evacuation followed by fecal urgency. Persistent postoperative pain after videolaparoscopic rectosigmoidectomy is uncommon. This study aimed at reporting a case of persistent postoperative pain after videolaparoscopic rectosigmoidectomy, controlled with bilateral anesthetic block of the hypogastric plexus.

CASE REPORT: Female patient, 54 years old, submitted to videolaparoscopic rectosigmoidectomy with transverse-retal colon anastomosis. In the immediate postoperative period she evolved with tenesmus, continuous and severe pain with occasional burning. Non-steroid analgesics would not relieve pain. Evaluation has not shown surgical complications and she was referred to the pain control team. Radioscopy-guided transdiscal bilateral upper hypogastric block was induced with 4 mL of 1% lidocaine (without vasoconstrictor) in L₅/S₁ which has induced major pain relief. Patient remained pain-free for two months when a new radioscopy-guided transdiscal bilateral upper hypogastric block was induced with 5 mL of 2% lidocaine (without vasoconstrictor) with major pain remission. Currently pain is controlled with occasional gabapentin (300 mg).

CONCLUSION: Persistent postoperative rectal pain was controlled with bilateral hypogastric plexus anesthetic block with prolonged pain relief, well beyond local anesthetic half-life.

Keywords: Abdominal pain, Chronic pain, Hypogastric plexus, Nervous block, Sigmoid colon, Video-assisted surgery.

RESUMO

JUSTIFICATIVA E OBJETIVOS: Dor abdominal crônica após intervenção cirúrgica possui fisiopatologia ainda pouco estudada, sendo descrita após cesariana, hérnia inguinal, videolaparoscopia e colecistectomia. Na região inferior do abdômen, a proctalgia crônica tem sido descrita após hemorroidectomia sendo caracterizada por dor à evacuação acompanhada de urgência para defecar. A dor crônica pós-operatória persistente após retossigmoidectomia videolaparoscópica é pouco frequente. O objetivo deste estudo foi relatar um caso de dor pós-operatória persistente após retossigmoidectomia videolaparoscópica, controlada com bloqueio anestésico bilateral do plexo hipogástrico.

RELATO DO CASO: Paciente do sexo feminino, 54 anos, submetida à retossigmoidectomia com anastomose em cólon transverso-retal, por videolaparoscopia. No pós-operatório imediato evoluiu com dor retal em tenesmo, contínua, de forte intensidade, com queimação ocasional. Analgésicos não opioides não aliviavam a dor. Investigação do quadro não evidenciou complicações cirúrgicas, sendo encaminhada para a equipe de controle de dor. Foi realizado bloqueio diagnóstico bilateral de plexo hipogástrico superior com 4 mL de lidocaina a 1%, (sem vasoconstritor) por via transdiscal em L₅/S₁.
persistent postoperative pain, by definition, is contro-
versial and self-limited. Incidence varies from 20% to 50% depending on the surgery and on diagnostic criteria. Etiology is not fully explained, although pain neuropathic character plays a significant role in some situations. Surgeries with long neural lesion extensions, such as thoracotomy, mastectomy and limb amputation have higher prevalence of prolonged post-operative pain. In addition, pain after inguinal hernia repair has neuropathic pain characteristics for most patients.

However, a significant number of patients with persistent postoperative pain does not have neuropathic pain, or it is impossible to diagnose the type of pain. In our case, patient reported severe rectal tenesmus pain, associated to rectal repletion, followed by malaise and sweating. She had burning symptoms and nonspecific symptoms characteristic of visceral pain. After diagnostic investigation about infectious complications, mass effect or rectal obstruction, pain etiology determination was useful not only to define diagnosis but also to assure patient the possibility of pain relief. With the anatomic pain location, etiologic diagnosis could be done by anesthetic block of rectal sympathetic afference originated from the upper hypogastric plexus. Blockade efficacy is due to the interruption of afferent pathways by local anesthetics, which are anatomically distributed together with autonomic afference. Due to the variability of visceral rectal pain conduction we present a review of abdominal and pelvic visceral plexus anatomy.

Abdominal visceral innervation is through the visceral plexus, a set of fibers and autonomic ganglia close to the viscerae and not anatomically differentiated between sympathetic and parasympathetic. Parasympathetic efference reaches the abdominal-pelvic cavity by anterior and posterior vagal trunks and inferiorly by pelvic splanchnic nerves. Pre-ganglionic sympathetic fibers, on the other hand, travel through thoracic, lumbar and sacral splanchnic nerves. Pre-ganglionic sympathetic fibers, pre and postganglionic sympathetic fibers, visceral afferent fibers and phrenic nerve sensory fibers. Fibers traveling inferiorly along the aorta until its bifurcation constitute the aortic plexus, which receives lumbar splanchnic branches. From this plexus, the lower mesenteric plexus is extended, and follows the lower mesenteric artery along its branches to form the upper rectal plexus, which conducts autonomic and afferent fibers to the rectum.

Below the aortic bifurcation, the aortic plexus originates the upper hypogastric plexus, which is located from the lower third of L₅ to the upper third of S₁, in the sacral promontory, close to the level of bifurcation of common iliac vessels. Upper hypogastric plexus, anteriorly to sacrum, is divided in two narrow and elongated chains called right and left hypogastric nerves, which go down over lateral rectum faces and join sacral and pelvic splanchnic nerves on the correspondent side, to form right and left lower hypogastric plexuses, also called pelvic plexuses or pre-sacral nerves. As opposed to upper hypogastric plexus, predominantly located in a longitudinal plane, lower hypogastric plexus is more transversely oriented extending postero-anteriorly in parallel to the pelvic floor. Hypogastric plexus subdivisions follow internal iliac arteries branches and innervate pelvic organs. Lower hypogastric plexus branches follow the middle rectal artery and form the middle rectal plexus, which helps rectal innervation.

To diagnose the anatomic rectal pain origin, upper hypogastric plexus anesthetic block prevents sensory information from the rectum via sacral plexus to reach the central nervous system. However, several nociceptive transmission pathways are involved with rectal sensitivity: upper or middle rectal plexus, lower mesenteric or lower hypogastric plexuses, sympathetic pathways by splanchnic nerves or sympathetic trunk and white communicating branch until spinal cord. In addition, nociceptive information may travel through the prevertebral plexus and follow parasympathetic pathways by pelvic splanchnic nerves.

In addition to pre-vertebral plexus innervation, rectum is also innervated by lower rectal nerve, pudendum nerve branch originating from the visceral plexus. In our case, hypogastric plexus was blocked by intradiscal route in L₅/S₁, guided by radioscopy. Local anesthetic-induced pain relief was prolonged, way beyond lidocaine half-life. Persistent postoperative rectal pain is originated in upper hypogastric plexus innervation, which may be relieved for a prolonged time with anesthetic blockade.
CONCLUSION

Persistent postoperative rectal pain was controlled with bilateral hypogastric plexus anesthetic block with prolonged pain relief, well beyond local anesthetic half-life.

REFERENCES


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