

CT-guided anterior celiac plexus neurolysis. Case report*

Neurólise de plexo celíaco por via anterior guiada por tomografia computadorizada. Relato de caso

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SUMMARY

BACKGROUND AND OBJECTIVES: Cancer pain requires other therapeutic options in addition to pharmacological treatment for better control. So, whenever possible, one should use interventionist pain control techniques and modalities to offer better quality of life and improve therapeutic response to treatment. This study aimed at presenting a simple interventionist technique, adequately tolerated by patients, with excellent pain relief and free of major intercurrents.

CASE REPORT: Female patient, 50 years old with neoplasia resulting from anal canal tumor and pain refractory to multimodal analgesic treatment. CT-guided anterior celiac plexus neurolysis by single puncture and 97% alcohol injection has provided effective abdominal pain control and return to daily activities.

CONCLUSION: CT-guided celiac plexus neurolysis with single puncture was effective to control abdominal pain in a patient with anal tumor and unresectable liver metastasis.

Keywords: Anal tumor, Cancer pain, Celiac plexus neurolysis.

RESUMO

JUSTIFICATIVA E OBJETIVOS: A dor oncológica exige outras opções terapêuticas além do tratamento farmacológico para melhor controle e, portanto, deve-se sempre que possível utilizar técnicas e modalidades

intervencionistas para controle da dor, pois assim pode-se oferecer aos pacientes melhor qualidade de vida e melhora da resposta terapêutica ao tratamento instituído. O objetivo deste estudo foi apresentar uma técnica intervencionista de simples execução, adequadamente tolerada pelo paciente, com ótimo resultado antálgico e isenta de maiores intercorrências.

RELATO DO CASO: Paciente do sexo feminino, 50 anos com quadro neoplásico decorrente de tumor de canal anal e dor refratária ao tratamento farmacológico multimodal com analgésicos. Submetida à neurólise de plexo celíaco por via anterior, guiado com tomografia computadorizada mediante punção única e injeção de álcool a 97%, obtendo controle efetivo do quadro álgico abdominal e retorno às tarefas da vida cotidiana.

CONCLUSÃO: A neurólise do plexo celíaco por via anterior com punção única sob tomografia foi efetiva para o controle do quadro doloroso abdominal em paciente com tumor anal e metástase hepática irrisecável.

Descritores: Dor oncológica, Neurólise plexo celíaco, Tumor anal.

INTRODUCTION

Anal canal cancer is an uncommon neoplasia. With regard to treatment, abdominoperitoneal resection of the rectum was the therapy of choice¹; however, current first line therapy is radiotherapy associated or not to chemotherapy²⁻⁷, because anal canal squamous cells carcinoma (SCC) dissemination is different from that described for rectum adenocarcinoma. Here, dissemination is mainly hematogenous or by proximity, with lung and liver metastases. Conversely, lymphatic dissemination for inguinal and even mesenteric ganglia is more frequent in SCC. This dissemination pathway makes local and inguinal radiotherapy necessary for treatment, regardless of tumor resection.

Due to this fact and to the type of mutilating surgery

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needed to resect such tumors with consequent permanent colostomy, and due to the good results observed in other squamous cells neoplasias, such as laryngeal tumors, chemotherapy and radiotherapy have become the treatment of choice for those patients.

With this therapy, there is 70% survival rate after five years. The disease confined to the muscle plane is associated to lower local recurrence risk and mortality⁸.

This study aimed at presenting a simple interventional technique adequately tolerated by patients with excellent pain relief and free from major interurrences.

CASE REPORT

Female patient, 50 years old, with anal canal tumor (cloacogenic basaloid) diagnosed in 2004. Therapeutic option was radiotherapy and chemotherapy. There has been good local control during clinical follow up until 2007, when after ultrasound, right lobe liver metastasis was observed. Patient was submitted to right liver resection in February 2008 (resection of segments VI, VII and VIII), however, tumor adhesion to diaphragm was seen perioperatively. Pathology has shown free margins and so patient was submitted to complementary chemotherapy with six cycles until December 2008. Evolution was good, without pain, with clinical control until November 2009 when she started complaining of pain in right shoulder, which was treated with analgesics (anti-inflammatory drugs).

In October 2010, liver recurrence was observed with diaphragmatic wall and intercostal muscles infiltration. Neoadjuvant chemotherapy was restarted with proposal of future tumor surgical resection; however, right shoulder and abdominal pain have worsened and no longer responded to oral high doses of opioids, which were instituted to control pain = 10 by the visual analog scale; in addition, patient started having side effects from this medication. Patient was admitted in January 2011 for intravenous analgesic administration, but response was unsatisfactory with pain in right hypochondrium irradiating to right intercostal, thoraco-lumbar and homolateral vertebral interscapular regions.

In this phase, interventional pain treatment was started with CT-guided posterior celiac plexus anesthetic block, but patient, even heavily sedated and under adequate analgesia, could not remain in the prone position due to pain intensity and during the procedure technique was changed to anterior to prevent changing to general anesthesia and impairing patient's status even further.

CT-guided anterior percutaneous neurolysis of the celiac plexus was performed, which requires normal coagula-

tion indices. The procedure was performed with patient in the supine position with single median puncture with 22G needle reaching the aim without complications, being necessary to puncture stomach, liver and intestine to reach the pre-aortic area between the celiac trunk origin and the upper mesenteric artery (Figures 1 and 2).

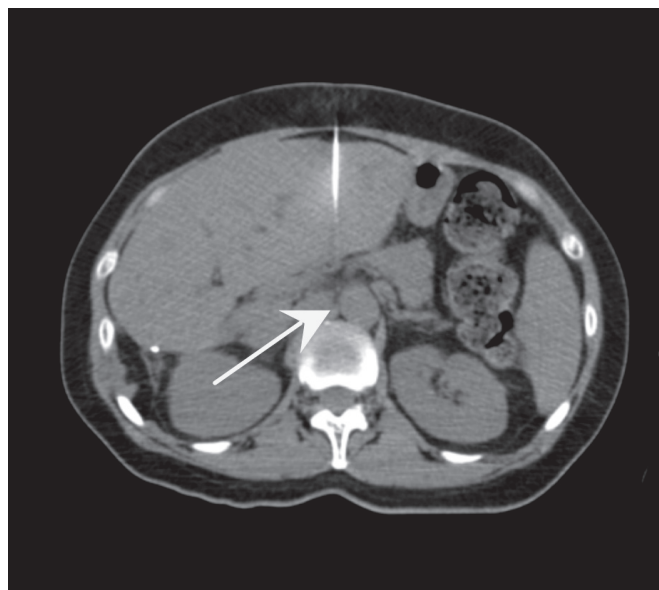


Figura 1 – Anterior needle direction (arrow)

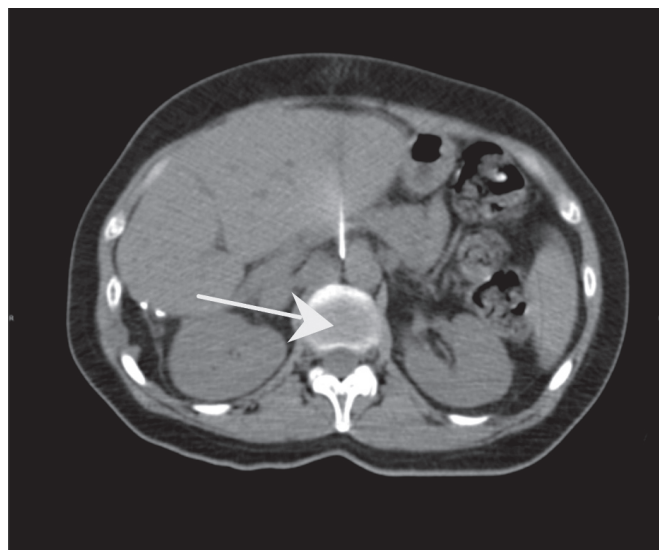


Figura 2 – Needle at 97% alcohol injection site (arrow)

Procedure was performed with the aseptic technique and local anesthesia at the abdominal puncture site, under sedation with benzodiazepines, opioid and oxygen therapy through nasal catheter. Neurolysis was only performed after test blockade with local anesthetics at 7 days interval. After ensuring needle positioning with 2 mL contrast injection, 20 mL of 97% alcohol neurolytic solution were administered; 3 mL of 1% lidocaine without vasocon-

strictor were applied before and after alcohol injection. There is the possibility of inflammatory complications due to peritoneal puncture, but they are seldom seen. The technique described in this study was totally successful, anterior access was fast and safe for alcohol injection at high concentration (97%) and there have been no complications such as hypotension and neurological complications which may be seen with the posterior access.

Celiac plexus blockade is an approved method for high abdominal cancer pain relief and is classically performed by the posterior access under fluoroscopy (radioscopy). CT-guided blockades have also been described¹⁹. We have used CT to perform median anterior celiac plexus neurolysis with single puncture (aiming at the pre-aortic area between celiac trunk origin and upper mesenteric artery (Figures 3 and 4)).

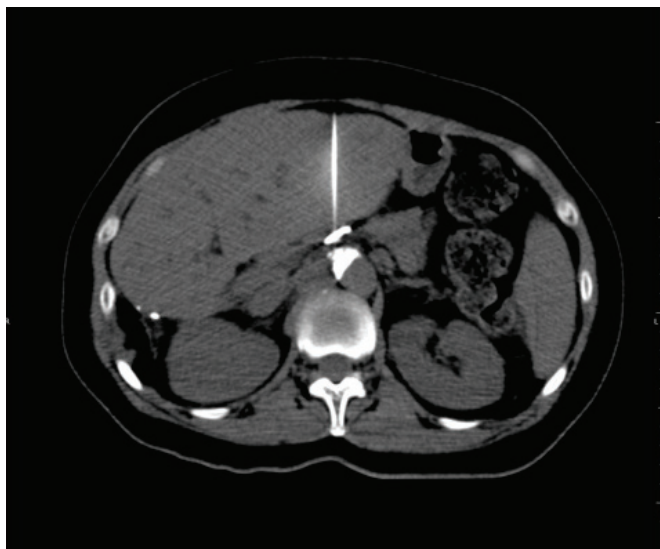


Figure 3 – Pre-aortic area contrast injection

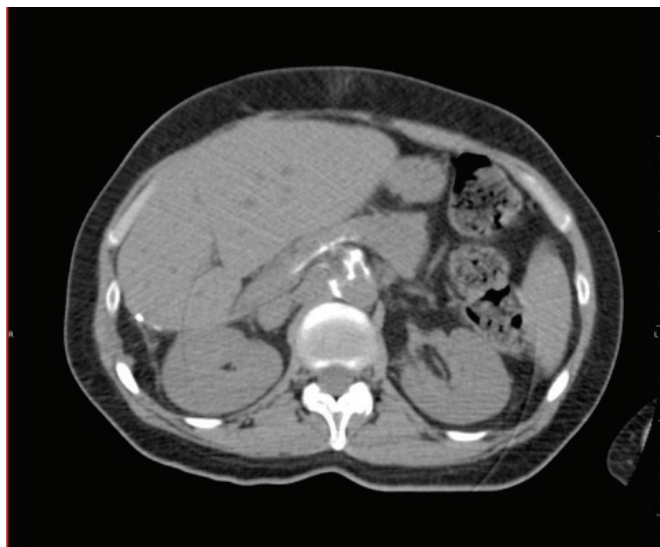


Figure 4 – Pre-aortic area after alcohol injection

Procedure lasted 90 minutes with no complications throughout or after it.

Some days after celiac plexus diagnostic blockade and with no side effects such as postural hypotension and intestinal transit changes as well as VAS = zero, CT-guided anterior celiac plexus neurolysis was then performed, which has initially contributed to VAS = zero and then VAS was maintained in 3, with major relief of the disabling pain refractory to conservative treatment previously presented by the patient.

Follow up medication was amitriptyline (25 mg) at night with return to normal daily activities. However, and still during follow up, patient presented biliary dilatation with obstruction and jaundice requiring biliary prosthesis and temporarily impairing her general status, but without remission of previous pain.

DISCUSSION

Cancer pain is highly prevalent and in general is multifactorial. In the follow up of this population it has been observed that pain control is still inadequate despite the analgesic cascade proposed by the World Health Organization (WHO). When pain cannot be controlled, the fourth WHS analgesic stair step may be added, which includes interventional techniques. Interventional therapies are indispensable measures for pain relief in cancer patients suffering from pain refractory to pharmacological treatment and include some modalities, among them the neurolytic technique.

There are several techniques and anatomic areas to perform sympathetic nervous system neurolytic block to treat cancer pain. Most common include celiac plexus, hypogastric plexus and ganglion impar. Currently, pain interventional treatment should be considered and adopted whenever needed by therapeutic schedules to relieve cancer pain⁹.

Celiac plexus neurolysis may be performed by different techniques, such as anterior and posterior access, and may be guided by fluoroscopy, tomography and, more recently, by echo-endoscopy¹⁰. However, tomography is replacing other techniques because it allows the direct view of neurolytic agent diffusion in the retroperitoneal anatomic space with correct needle positioning, preventing injuries to some anatomic structures such as pancreas, aorta, celiac artery and upper mesenteric artery¹¹.

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CONCLUSION

TC-guided anterior celiac plexus neurolysis is a safe and effective technique for abdominal cancer pain, it is well accepted and tolerated by this population and is also easy to perform.

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