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Biopsia transiliaca de masa pélvica profunda con embolización del tracto de punción

Transiliac biposy of a deep pelvic mass with ulterior embolization of the biopsy path

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RESUMEN

La biopsia percutánea con aguja gruesa guiada (BAG) por imagen es un procedimiento habitual en los servicios de Radiología por su alta seguridad y efectividad. La punción de lesiones profundas abdominopélvicas requiere de una cuidadosa planificación previa dada la existencia de múltiples órganos y estructuras interpuestas que pueden impedir el acceso seguro a la lesión. Se han descrito diferentes rutas de abordaje para la biopsia de lesiones pélvicas.
El objetivo de este artículo es ilustrar un abordaje poco frecuente a través del ala iliaca para la BAG de una lesión pélvica profunda con posterior embolización del tracto de punción en un paciente con plaquetopenia de difícil corrección con el consiguiente riesgo de sangrado.

ABSTRACT

Image-guided percutaneous biopsy is a frequent procedure in Radiology departments due to its high security, accuracy and effectiveness. Biopsy of abdominopelvical deep lesions, requires careful planning of the access path because important structures may be localized on the projected needle route. Different approaches have been described for the biopsy of deep pelvic lesions. The objective of this article is to illustrate an infrequent access path through the iliac bone for the core-biopsy needle to arrive at deep pelvic lesions with subsequent embolization of the needle path in a patient with un-correctable low platelet count and bleeding risk.

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CASE INTRODUCTION

The case involves a 70-year-old male patient with liver cirrhosis compensated by case viral aetiology (HCV) CHILD at 6 points, who was treated in February 2015 for trinodular hepatic-carcinoma (segments II, III and IV) with chemoembolization and radiofrequency combined, and with radiological remission (CT and MRI) and analytical (alpha-fetoprotein (AFP) 14 ng/ml). In December 2015, there was an increase of AFP (215 ng/ml) without the observance of suspicious lesions of hepatocellular-carcinoma in the imaging studies. The AFP continued to increase up to levels of 1912 ng/ml in April 2016, so a decision was made to perform a PET-CT which revealed, as the only outcome, an adenopathy conglomerate in the left iliac chain of 5 cm diameter (Fig. 1). The patient presents thrombocytopenia, with values of approximately 20,000/l and normal coagulation tests, from splenic sequestration associated with liver cirrhosis. Despite numerous platelet transfusions performed prior to the above interventions, the platelet count was less than 50,000/l. The lesion suggests a variety of different diagnoses such as single ganglion metastasis of the hepatocarcinoma, lymphoma or, less likely, metastasis from seminoma (testicular ultrasound without alterations), whereby in July 2016 a laparoscopic surgery was performed for a biopsy which did not find the lesion.

After discussing the case in an interdisciplinary committee, the patient was admitted to our department for a percutaneous biopsy evaluation. The CT studies conducted previously were examined and showed that the lesion was difficult to access from the front, due to the interposition of the colon and small intestine loops and iliac vessels. It was then decided to perform a guided-CT biopsy through the iliac wing (transiliac access). The patient was hospitalized on the request of the Haematology department for optimization of thrombocytopenia. The procedure was performed on the patient in a prone-decubitus position, who was sedated by the Anaesthesiology Department. After localization of the lesion, it was planned to access it through the narrowest part of the iliac wing.

The local anaesthesia was injected (10 ml of 2% Mepivacaine) into the puncture route up to the iliac wing periosteum. An 11G needle for bone biopsy (Argon Medical Devices, Athens. USA) was passed through the iliac wing, the iliacus muscle up to the adenopathy complex. The stopper was removed and, in a coaxial manner, three biopsy samples were obtained by means of a 18G tru-cut automatic needle (BARD. Tempe. USA) and, on request of the pathologist, it was possible to make two aspiration puncture manoeuvres with a 21G thin needle (PAAF). Once the samples were taken, to reduce the bleeding risk, a 4 Fr angiographic catheter (Vertebral Terumo, Leuven. Belgium) was introduced coaxially by means of the 11G needle and the coaxial needle was then removed. Finally, the puncture tract was embolized with Glubran2® embolic liquid (GEM. Viareggio. Italy) (diluted with Lipiodol 1:3) during the removal of the angiographic catheter (Fig. 2).

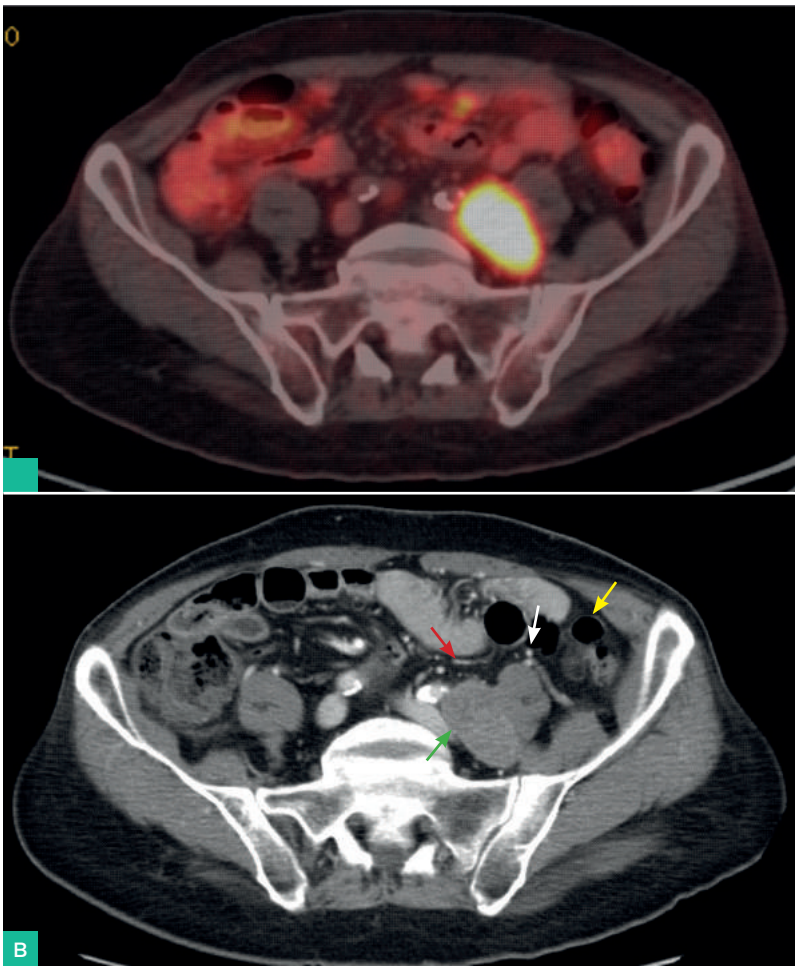

Fig. 1 A. PET-CT with FDG. B. abdominal CT with contrast where you can see the retroperitoneal mass compatible with the adenopathic conglomerate in the left iliac chain (green arrow). You can also see that the lesion cannot be accessed from the front due to the interposition of the descending colon (yellow arrow) and small intestine loops. Ureter (red arrow) and gonadal vessels (white arrow).

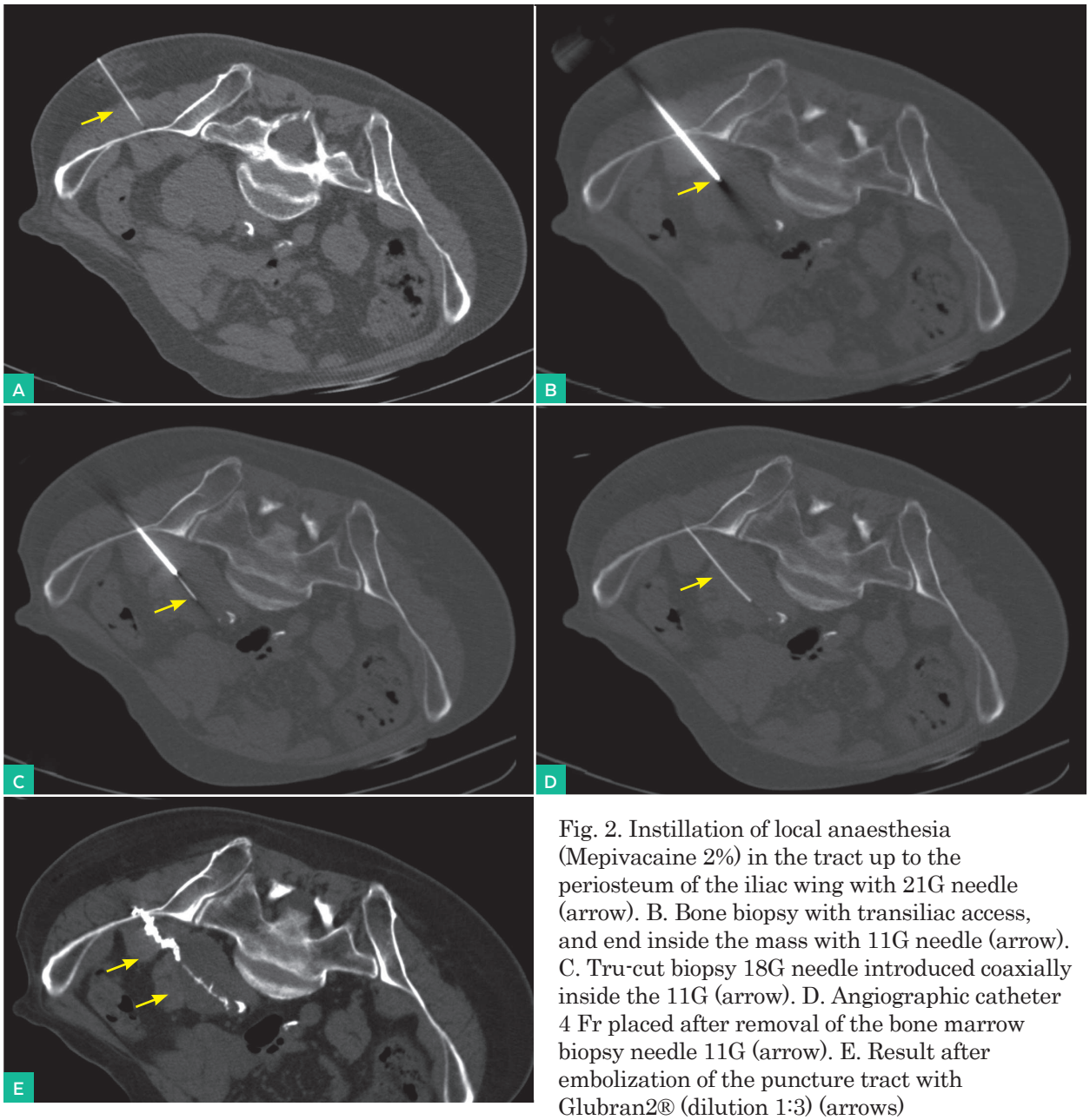

Fig. 2. Instillation of local anaesthesia (Mepivacaine 2%) in the tract up to the periosteum of the iliac wing with 21G needle (arrow). B. Bone biopsy with transiliac access, and end inside the mass with 11G needle (arrow). C. Tru-cut biopsy 18G needle introduced coaxially inside the 11G (arrow). D. Angiographic catheter 4 Fr placed after removal of the bone marrow biopsy needle 11G (arrow). E. Result after embolization of the puncture tract with Glubran2® (dilution 1:3) (arrows)

The patient spent the night at the hospital without any discomfort and was discharged the following day.
The anatomopathologic diagnosis was undifferentiated carcinoma of a probable hepatic origin.

DISCUSSION

Transiliac access is a safe and effective option for the biopsy of deep[1-3] pelvic lesions. Other accesses have been described for the biopsy of deep pelvic lesions such as anterior extra-peritoneal access through the iliopsoas[4,5] muscle, transabdominal[6,7], transsacral[8], instillation of physiological[1,2] serum or changes in the position of the patient[1,2].

The advantages of the transiliac access are that it prevents peritoneal transgression and greatly reduces the risk of unintentional puncture of pelvic organs such as the colon or bladder. In addition, in patients with alterations in coagulation or thrombocytopenia, as shown in this case, it is possible to embolize the puncture tract by minimizing the risk of bleeding. However, this access can be painful, but this can be prevented by injecting the periosteum with local anaesthesia or with the collaboration of the Department of anaesthesia, as shown in our case. Finally, it is important to remember that this access requires the ureter and the gonadal vessels to be localized, passing through the front edge of the psoas muscle, to prevent damaging

them during the procedure.
In procedures like the one described here, interventional radiologists must be very familiar with the pelvic anatomy to be able to choose the safest and most effective access for every patient.

We need to study each case carefully and know the advantages and disadvantages of the various access routes in order to be able to choose the appropriate access to each case.

BIBLIOGRAPHY

1. Triller J, Maddern G, Kraft P, Heidar A, Vock P. CT-guided biopsy of pelvic masses. Cardiovasc Intervent Radiol. 1991;14(1):63-8
2. Gupta S, Nguyen HL, Morello FA, Ahrar K, Wallace MJ, Madoff DC, et al. Various approaches for CT-guided percutaneous biopsy of deep pelvic lesions: Anatomic and technical considerations. Radiographics. 2004;24:175-89
3. BodneDJ,CarrascoCH,RichliWR.Transosseousair contrast CT-guided needle biopsy of a cystic neoplasm. Cardiovasc Intervent Radiol. 1993;16:122-3
4. GuptaS,MorelloFAJr,AhrarK.Deeppelviclesions: CT-guided biopsy through the iliopsoas muscle using a curved needle for difficult lesions. Cardiovasc Intervent Radiol. 2002;25:S201
5. Phillips VM, Bernardino M. The parallel iliac approach: a safe and accurate technique for deep pelvic lymph node biopsy. J Comput Tomogr. 1984;8:237-8
6. Gupta S, Ahrar K, Morello FA, Wallace MJ, Madoff DC, Hicks ME. Using a coaxial technique with a curved inner needle for CT-guided fine-needle aspiration biopsy. AJR Am J Roentgenol. 2002;179:109-12
7. Schweiger GD, Yip VY, Brown BP. CT fluoroscopic guidance for percutaneous needle placement into abdominopelvic lesions with difficult access routes. Abdom Imaging. 2000;25:633-7
8. Rapport RL, Ferguson GS. Dorsal approach to presacral biopsy: technical case report. Neurosurgery. 1997;40:1087-8