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Percutaneous CT-Guided Treatment of Recurrent Spinal Cyst Hydatid

Nüks Spinal Hidatik Kistin BT Eşliğinde Perkütanöz Yolla Tedavisi

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ABSTRACT

The involvement of spinal column in cyst hydatid disease is rare and hard to treat. The gold standard treatment is total removal of the cysts without rupture. However, recurrence after surgery is almost inevitable and reoperations carries technical difficulties and higher morbidity. We present a 69-year-old woman with two cystic masses at the T12 level, which compress the spinal cord causing severe paresis in her left leg. Under local anestesia, the cysts were aspirated and irrigated with 20% hypertonic saline solution via bilateral T12 transpedicular route. We aimed to report that percutaneous CT guided treatment should be considered as an alternative therapeutic option in case of recurrent spinal cyst hydatid

KEYWORDS: Cyst hydatid, Echinococcosis, Percutaneous aspiration, Recurrence, Spinal column

ÖZ

Kist hidatik hastalığında spinal kolon tutulumu oldukça seyrektir ve tedavisi güçtür. Tedavide altın standart kistlerin total olarak rüptüre olmaksızın çıkartılmasıdır. Bununla birlikte cerrahi sonrası nüks neredeyse kaçınılmazdır ve yeni cerrahi girişimler teknik güçlükler ve yüksek bir morbiditeye sahiptir. Bu olguda, 66 yaşında T12 seviyesinde spinal korda basan iki kistik kitle nedeniyle sol bacağında ileri güç kaybı ile başvuran hastayı sunduk. Lokal anestezi ile CT eşliğinde kistler %20'lik hipertonik serum ile irrige ve aspire edildiler. Biz, nüks spinal kist hidatik vakalarında CT eşliğinde perkütan yolla tedavinin alternatif bir girişim olabileceğini düşünerek sunmayı hedefledik.

ANAHTAR SÖZCÜKLER: Kist hidatik, Ekinokokkoz, Perkütan aspirasyon, Nüks, Spinal kolon

INTRODUCTION

The involvement of bones in hydatid disease is accounts for 0,5 to 4% of all cases and more than half involves spinal column (11,14). The treatment of spinal hydatid disease is very challenging due to complex invasion of the vertebral column (2,5,6,7,9,15). Despite of high recurrences, the principal mode of treatment is surgical resection (5,6). On the other hand, there are few reports describing the control of echinococcosis of the central nervous system using only albendazole treatment (10,13). Although the fine-needle aspiration of the cyst hydatid carried out as a diagnostic tool, review of the literature revealed that only one cyst hydatid located in cervical spine treated via percutaneous aspiration (12).

To our knowledge, this is the first case of recurrent spinal cyst hydatid treated via percutaneous CT-Guided aspiaration.

CASE REPORT

The 69-year-old woman was admitted with severe paresis in her left leg and difficulty in walking without assistance. She had left leg monoparesis (2/5) on neurological examination. The MRI of thoracal vertebra showed a nonenhancing cystic two mass at the T12 level, which compress the spinal cord bilaterally (Figure 1A). The diameters of the cysts were 24x12 mm and 15x13 mm. Her medical records showed that she underwent cyst resection, partial corpectomy and posterior fusion procedure with transpedicular screws and bone cement for T12 cyst hydatid two years ago.

Other than normal laboratory findings, the hemagglutination test was positive Echinococcus granulosus. The procedure was performed under CT guidance. After administration of local anestesia, a 19 G needle was inserted into the cysts through the T12 right pedicle (Figure 1B). The cysts were aspirated and filled with nonionic contrast agent. There were no connections with the cyst and thecal sac. After aspiration of contrast material the cyst lumens were filled with 20% hypertonic saline solution for 15 minutes. The procedure was completed with the aspiration of hypertonic saline solution. For the other cyst, operation was done in same manner through the T12 left pedicle (Figure 1C). The paresis in her left leg improved moderately after intervention and she began to walk without assistance. She was discharged with oral albendazole 2x400 mg daily. The control MRI showed marked resolution of cysts and disappearance of cord compression (Figure 1D). She was symptom free on 6 months follow-up.

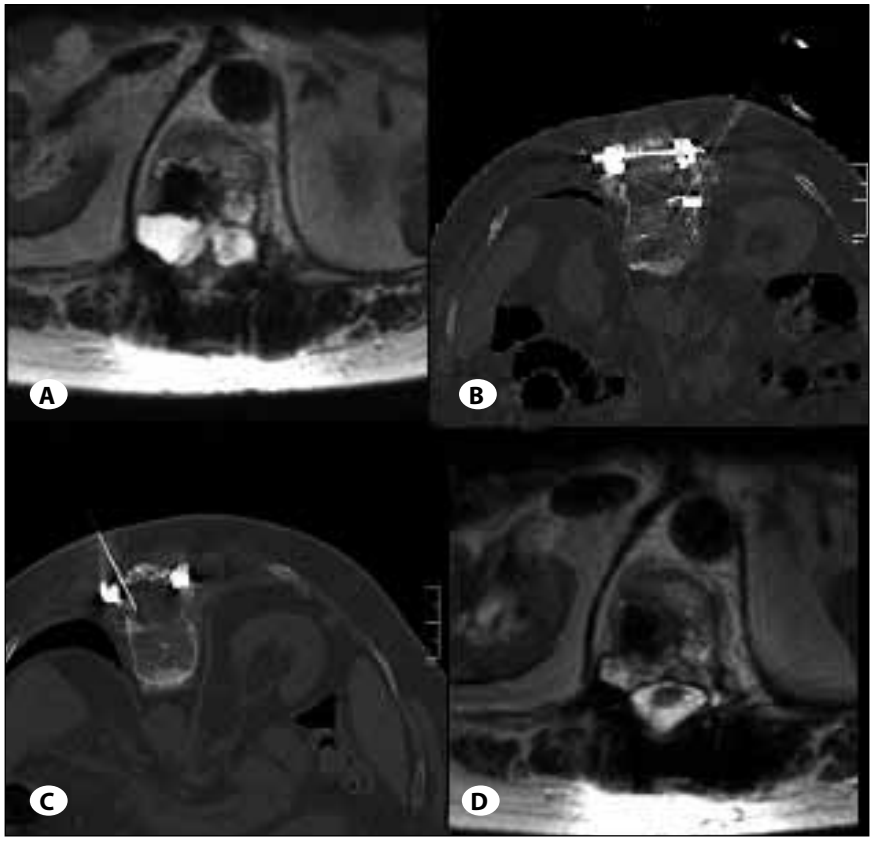

Figure 1: A) Axial T2-weighted MR image shows two cystic lesion located on corpus of T12 vertebra posteriorly and spinal compression.
B) Axial CT image during intervention. A 19 G needle placed into the cysts through the right pedicle. Note there is no communication with the techal sac.
C) Axial CT image of the 19 G needle placed into the cysts through the left pedicle.
D) The control axial T2-weighted MR image shows marked reduction in cyst volumes and disappearance of cord compression.

DISCUSSION

Treatment of the spinal hydatid disease is still difficult and controversial. The gold standard method is radical resection whenever possible (1,3-5,11,15). On the other hand, the invasive nature of the disease leads to an involvement of whole vertebrae with neural and vascular structures. Owing to extensive invasion, complete removal of the cysts without intraoperative rupture and spillage is almost impossible. Thus, surgery is not curative in most cases and results in recurrence in a rate of 50% to 100% (2,5-7,15). Since the surgery is not curative alone, antihelmintic drugs such as albendazole (10mg/kg/day) or mebendazole (50mg/kg/day) is used widely as adjunctive treatment (1,4,10,13).

An alternative treatment option is percutaneous fine needle aspiration of hydatid cyst. However this procedure is debated due to the potential risk of anaphylactic shock and dissemination of the disease (8,12,16). There are single reports about fine-needle aspiration of hydatid cysts performed as a diagnostic procedure (8,16). Currently, there is only one case of percutaneous CT-guided treatment of cervical spinal hydatid cyst in the literature (12). In our case, the patient underwent cyst resection, partial corpectomy and posterior fusion procedure with transpedicular screws and bone cement in first surgical session. Considering that technically more demanding reoperation could be risky to the patient, we performed CT guided percutaneous aspiration and irrigation with hypertonic saline solution resulting in complete resolution of the cysts.

In conclusion, the treatment of choice in the spinal hydatid disease is radical excision, stabilization if necessary and medical therapy. Nevertheless, the recurrence rate is still high after surgery and reoperation is very difficult owing to prior instrumentation, artificial bone grafts and loss of anatomic planes. In these cases, percutaneous CT guided treatment should be considered as an alternative therapeutic option.

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