
SPINAL HYDATIDOSIS (STUDY OF 06 CASES)

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Résumé : La localisation vertébrale du kyste hydatique est une forme sévère d'hydatidose osseuse, c'est une infection parasitaire provoquée par les formes larvaires du ténia *Echinococcus granulosus*, cette localisation est souvent découverte au stade de complications neurologiques. La longue latence clinique et l'absence de spécificité symptomatique sont la cause du retard diagnostique. **L'objectif** de cette étude est de rappeler les aspects cliniques et radiologiques de cette affection et l'importance d'un diagnostic précoce et d'une prise en charge adaptée. Nous rapportons une étude portant sur six patients atteints d'hydatidose vertébrale, cinq hommes et une femme, quatre (04) patients opérés en urgence (décompression par laminectomie large avec évacuation des vésicules intra et extra canalaire). **Un traitement médical** à base d'Albendazole est institué chez tous les patients. **Résultats :** L'évolution a été favorable pour quatre patients, les deux autres patients ont été réopérés pour une récurrence locale. **Conclusion :** L'hydatidose vertébrale est une affection rare de mauvais pronostic en raison du risque d'atteinte neurologique, du caractère infiltrant des lésions osseuses, de la fréquence des rechutes et des difficultés thérapeutiques. La seule méthode curative reste la chirurgie qui doit viser une exérèse complète et large des lésions comme s'il s'agissait d'une « tumeur maligne ».

Mots clés : Hydatidose, *Echinococcose granulosus*, Kyste hydatique, Compression médullaire, Laminectomie.

Abstract : Vertebral localization of the hydatid cyst is a severe form of bone hydatidosis, is a parasitic infection caused by the larval forms of the tapeworms *Echinococcus granulosus*, The disease is slowly remaining silent (a long incubation period) which may explain why this pathology is often discovered at the stage of neurological complications. **The objective** of this study is to recall the clinical and radiological aspects of this condition and the importance of early diagnosis and appropriate management. We report a study of six patients with vertebral hydatidosis, five men and one woman, four (04) patients operated in the emergency setting for spinal cord compression (decompression by wide laminectomy with evacuation of intra and extra canal vesicles). **Albendazole-based medical treatment** is instituted in all patients. **Results:** The evolution was favorable for four patients, the other two patients reoperated for a local recurrence. **Conclusion:** Vertebral hydatidosis is a rare condition with a poor prognosis due to the risk of neurological damage, the infiltrating nature of bone lesions, the frequency of relapses and therapeutic difficulties. The only curative method remains surgery, which must aim for complete and large excision of the lesions as if it were a "malignant tumour".

Keywords: Hydatidosis, *Echinococcosis granulosus*, hydatid cyst, Spinal cord compression, Laminectomy

INTRODUCTION

Hydatidosis is an anthroponosis caused by the larval form of tapeworm of the kind *Echinococcus granulosus*. Vertebral hydatidosis is rare and represents only 0,5 to 2,5% of all locations, even in endemic areas. It remains the most frequent and most serious localization of bone hydatidosis (50%) [1].

PATIENTS AND METHODOLOGY

A. Clinical Presentation:

We report five cases: Four men and one woman, aged 28, 36, 39.41 and 45 respectively, consulted urgently for various symptoms : spinal pain, numbness of the lower limbs, lumbosciatalgia.

The consultation noted a history of hydatid cyst in one patient.

The neurological examination revealed in

three cases a spinal cord compression syndrome, one case of cauda equina syndrome and in one case of lumbar spinal syndrome (Tableau 1).

Patient	Age/Years	Sex	Clinical presentation	History Hydatid Cyst
01	28	Men	Spinal cord compression	NO
02	36	Men		NO
03	39	Women	Spinal cord compression	YES
04	41	Men	cauda equina syndrome	NO
05	45	Women	Spinal cord compression	NO
06	29	Men	Spinal cord compression	NO

Figure 1: Clinical presentation

B. Additional Examinations:

MRI (Magnetic Resonance Imaging) and CT (computed tomography) of the spine performed in our four patients (figure 1 and 2) show multiple cystic lesions of the

vertebral body and intracanal responsible for spinal cord compression with extension in the para vertebral soft tissue and isolated involvement of the vertebral body in the sixth case.

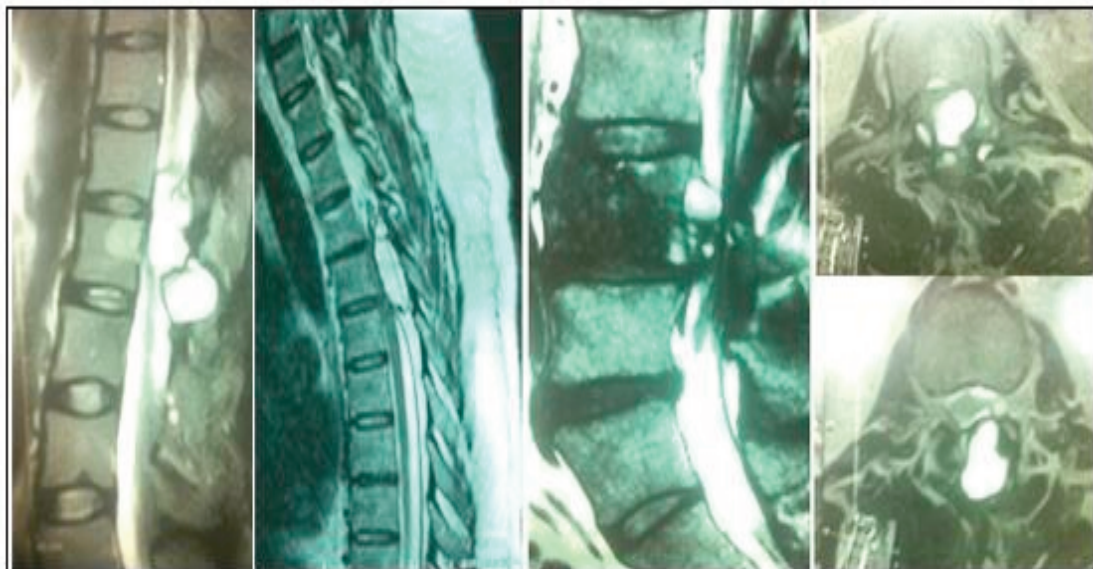


Figure 1 : MRI of the spine shows the typical fluid signal of the hydatid vesicles responsible for spinal cord compression.

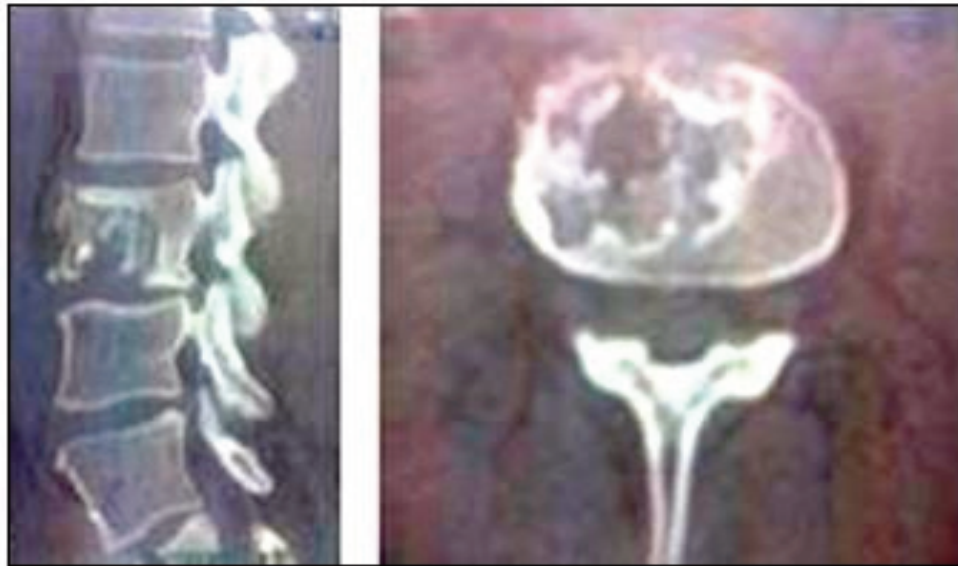


Figure 2 : CT of the spine shows the destruction of the vertebral body.

c.Treatment

Surgery was indicated in all patients.

the surgical procedure consisted of a wide wide medullary decompression within the framework of the emergency by laminectomy and resection of multiple cystic lesions (Figure 3a) extra-canal and lateral paravertebral and intracanal extension for a total release of the spinal

cord (Figure 3b). with abundant washing with hydrogen peroxide to fight against contamination in the event of accidental rupture of the cysts.

One patient presented with vertebral instability secondary to destruction of the third lumbar vertebra which requires stabilization by posterior metal osteosynthesis (Figure 4).

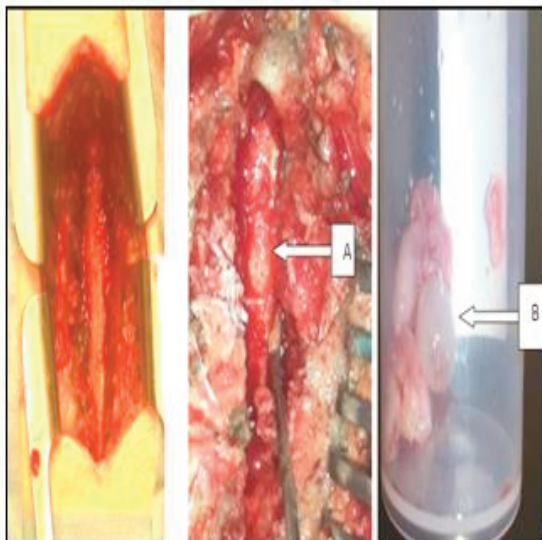


Figure 3 : wide laminectomy with excision of cystic lesions.



Figure 4 : X-ray control, osteosynthesis L3L5

The anatomopathological examination concludes with hydatid cysts (Figure 5).

Oral antiparasitic therapeutic supplement Albendazole is prescribed to all patients at a dose (10mg/kg/day) for 24 months.

D- Other complementary explorations:

- looking for other locations (pulmonary, hepatic or cardiac) Abdominal, pelvic and thoracic computed tomography.
- Echocardiography, results: no other location positive hydatid serology in the 4 cases.

E-Results:

The immediate post-operative follow-up is marked by the improvement of neurological signs. Control spinal MRI (early postoperative) shows wide excision of the cysts and total spinal liberation (Figure 6). The evolution was favorable for four patients, the other two patients reoperated for a local recurrence (A patient case n°3, is stopped the antiparasitic treatment because of pregnancy).



Figure 5: Microscopic appearance of Echinococcus granulosus.

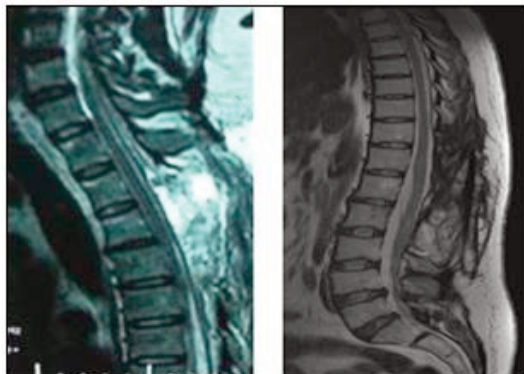


Figure 7: Postoperative MRI sagittal sections showing total excision of the cysts.

DISCUSSION

- Human hydatidosis is a parasitic disease or zoonosis (disease transmitted to humans by animals), caused by parasitic tapeworms of the genus *Echinococcus*.

- Human infestation results from ingestion of parasite eggs (embryophores) taken from the dog's coat or indirectly from food or soil soiled by dog feces) or after direct contact with animal hosts.(Figure.8) [2, 3]. It is favored by poor hygienic conditions and promiscuity with dogs and sheep. It is endemic in rural areas, particularly in South America, Australia and North, Middle East and the Mediterranean countries [4].

- The preferential and most frequent localization is the liver (>65%) and the lung (25%)[5].

- Vertebral location is rare and represents only 0,2 -1 % [6], it is most often primitive, this can be explained by the affluence of the vertebral vascularization and/or by the phenomenon of the paradoxical embolism of the portal system towards the spinal plexus [7].

- The incubation period and very long can last many years (in this period no clinical signs or asymptomatic) before the hydatid cysts are sufficiently developed to trigger clinical signs.

- The clinical appearance is a spinal cord compression syndrome with preserved general condition, no signs of infection (fever, fever or weight loss).

- Treatment: Vertebromedullary hydatid disease should be considered a locally aggressive tumor.

The treatment is surgical with an oncological aim which must be associated with an antiparasitic medical treatment [8].

The surgery has three objectives:

- 1- Early spinal cord decompression for improved functional neurological prognosis (requiring a large laminectomy).
- 2- Stabilization of the spine (arthrodesis).
- 3- Wide excision of the cysts to reduce the risk of recurrence.

- The medical antiparasitic treatment (albendazole 400 mg in a single dose) should preferably be initiated before surgery, to reduce the risk of contamination in the event of accidental intraoperative rupture. the duration of postoperative treatment is on average 3 to 6 months, it can

in some cases continue up to 02 years or more. No recommendations concerning the optimal postoperative duration of antiparasitic medical treatment.

The evolution characterized by: recurrence in 40 to 100% [9].

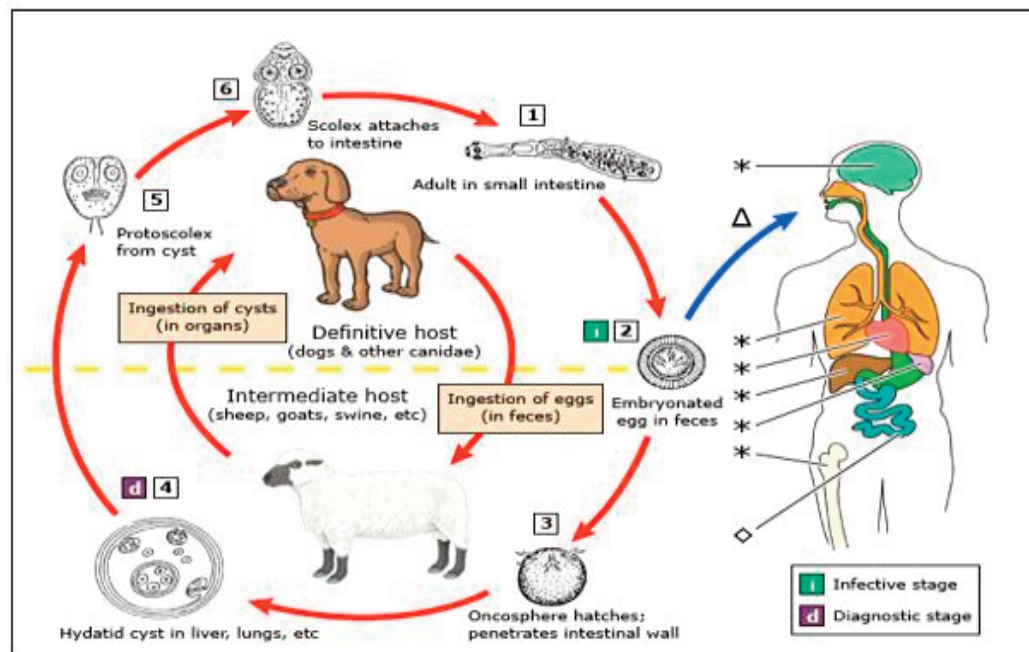


Figure 8 : Illustration showing the life cycle of *E. granulosus* in both animals and humans [3]

CONCLUSION

Vertebral hydatidosis is a rare condition with a poor prognosis due to the risk of neurological damage, the infiltrating nature of the bone lesions, the frequency of recurrences and the therapeutic difficulties.

The prognosis depends on the earliness of treatment.

The best treatment is the prevention of the disease, which must be exercised at all levels of the epidemiological chain.

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