ALVEOLAR ECHINOCOCCOSIS IS NOW ENDEMIC IN SOUTHERN BELGIUM

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Background
Alveolar echinococcosis (AE) is a zoonosis due to the larval stages (metacestode) of the tapeworm Echinococcus multilocularis. The foxes are enrolled in a sylvatic cycle as a definitive host. In humans (intermediate host) the metacestode of E. multilocularis proliferate in the liver and induce invasive hepatic lesions but also extra-hepatic lesions (pulmonary, cerebral, adrenal gland, splenic, bone, soft tissue,…). The diagnosis is based on epidemiological data, clinical findings, serology, clinical imaging, histopathology and in some cases E. multilocularis specific PCR assay on tissue. Early multidisciplinary care is advised. The radical surgery (R0) followed by 2-year of albendazole is the rule.

Until now, Belgium has been considered as low-risk country for AE. However, it was recently demonstrated by necropsy series that up 60% of the red foxes (Vulpes vulpes) may be infected by E. multilocularis in some parts of Southern Belgium (Fig 1). The first indigenous Belgian human AE cases were described in the early 2000’s.

The aim of this study was to report the experience of the CHU Liege, Belgium, with AE management.

Patients and Methods
The authors performed a retrospective study of AE cases managed between 1999 and 2017 at the CHU Sart-Tilman, University of Liége, Belgium. A total of 21 cases were identified. We collected data from epidemiology findings, serology, and clinical imaging. The medical files were retrospectively reviewed. The patients were classified into 3 groups (possible, probable and confirmed cases) according to the WHO- working group on Echinococcosis.

Table I: Patients characteristics

<table>
<thead>
<tr>
<th>Sex ratio and mean age at the diagnosis</th>
<th>Degree of immunosuppression</th>
<th>Risk factors</th>
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<tbody>
<tr>
<td>2/3 are male, 69 years (range: 34-85y)</td>
<td>38% of the patients (2 solid cancer, 2 hematological cancer, 1 chronic inflammatory disease, 2 chronic ethylism, 3 diabetes)</td>
<td>In all patients risk factors have been highlighted (having a dog and/or a cat, living in a rural zone, practicing outdoor activities, eating uncooked wild strawberries, working as farmer).</td>
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</table>

Clinical presentation
3

Table II: Lesions characteristics

<table>
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<tr>
<th>Lesions</th>
<th>Hepatic involvement in 20 cases (9 bilateral, 5 the right lobe and 6 the left lobe). Only 5 patients presented a lesion strictly hepatic.</th>
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<td>PNM grading</td>
<td>Stage I: 3 patients, Stage IIb: 8 patients, Stage III: 11 patients.</td>
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Table III: Treatment

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<tr>
<th>Surgery</th>
<th>11 patients underwent R0 hepatic and extrahepatic surgical resections, followed by a two-year (yr) (6-month for one patient) albendazole treatment. The two-year albendazole have been stopped because of side effects for one case. 3 have an R2 surgery (inflammatory phlegmon, persistent pulmonary lesions, hepatic lesion followed by a long-term albendazole or mebendazole treatment).</th>
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<tr>
<td>Albendazole</td>
<td>7 patients have unresectable liver lesions and underwent albendazole palliative therapy. One patient has followed a 2-year albendazole treatment, the other one the albendazole was stopped because the patient was in palliative care.</td>
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Side effects
49% of the patients presented side effects of albendazole.

Results

Discussion
AE appears to be spreading in Belgium and has actually an uneven geographical distribution with endemicity in areas of Southern and Eastern Belgium. However, it is probable that local AE cases will be diagnosed in the whole country, considering that there is no reason that infected foxes remain in Southern Belgium and also the fact that some people from Northern Belgium might spend long period in Southern Belgium, with or without their dogs. The liver is the most frequently involved organ and the only cure can be achieved by complete R0 resection of all AE lesions. In reaction to this experience, the authors created a multidisciplinary group for AE diagnosis and management, including hepatologists, infectiologists, microbiologists, pathologists, radiologists, nuclear medicine specialists, surgeons and veterinarians. The authorities should be aware of this medical issue. A complete national survey should be encouraged, and BASL might have an important role in this study.

References

Figure 1: AE prevalence in red foxes demonstrated by necropsy series (Hanosset et al.)

Figure 2: Distribution of indigenous AE human cases

Figure 3: Distribution of indigenous AE human cases