INTRODUCTION

Ultrasonography is a diagnostic imaging modality and an almost indispensable technique in the daily practice of veterinarians across all species. In ferrets, lymphoma has been described as the third most common neoplastic disease. Its clinical presentation often includes a marked lymphadenomegaly. However, until now little information has been published about the normality of the ferret abdominal ultrasonography, making alterations more difficult to detect and diagnose.

OBJECTIVE

To describe the anatomic position, size and ultrasonographic appearance of the abdominal lymph nodes in clinically healthy ferrets.

MATERIALS AND METHODS

- Determined as healthy by a specialist
- Sedated with butorphanol 0.5mg/kg
- Shaved abdomen
- Supine position

OUTCOMES

- Frequency of detection
- Length and thickness
- Shape
- Echogenicity
- Homogeneity
- Capsule presence

RESULTS

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Hepatic</th>
<th>Splenic</th>
<th>Gastric</th>
<th>Pancreaticoduodenal</th>
<th>Jejunal</th>
<th>Caudal mesenteric</th>
<th>Medial iliac</th>
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<tbody>
<tr>
<td>Lymph nodes length and thickness were adjusted to normal distributions with some outliers in the splenic, hepatic and medial iliac lymph nodes.</td>
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<td>Nineteen out of the 44 samples had an heterogeneous echogenicity pattern. Sixteen lymph nodes were homogeneous hypoechoic and adjusted to normal criteria. Twelve lymph nodes were homogeneous, hypoechoic, encapsulated, round to oval shaped, or C shaped in the case of the jejunal lymph node.</td>
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<td>The hepatic (a), splenic (b), gastric (c), pancreaticoduodenal (d), jejunal (e), caudal mesenteric (f), and medial iliac (g) lymph nodes were detected in some or all ferrets.</td>
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<td>METHODS</td>
<td>Ultrasound System</td>
<td>18MHz linear transducer</td>
<td>Imaging Service specialists</td>
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<td>MATERIALS</td>
<td>Esaote MyLab70 Xvision Ultrasound System</td>
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DISCUSSION AND CONCLUSIONS

- The study provides an initial guide to the lymph node ultrasonography and reference parameters of size and shape.
- Lymph nodes did not adjust for normal criteria in most cases. Altered lymph nodes, defined as heterogeneous or non hypoechoic lymph nodes, were seen in all eight clinically healthy ferrets, regarding its age or weight.
- Altered lymph nodes could be reactive or neoplastic lymph nodes. Since all the ferrets included were clinically healthy at the moment of the study, we cannot distinguish whether heterogeneous echogenicity is a real alteration or a non relevant finding.
- The low number of samples and the wide range of ages may have had an impact on the evaluated frequencies.

REFERENCES