(153.6 ± 6.9 c.u. vs 108.3 ± 3.9 c.u.). The ration between B1- and B2-cells SDH activities characterized with 3 times B1-cells activity domination compared with control group (80% vs 20%). B-cells SDH activity and their number gradually decreased with increasing duration of the disease, mainly by virtue of the B2-cells parameters change. After the year of infliximab therapy it was observed significant B1-cells number augmentation in patients with nonsustained efficacy of the therapy (16% before 1 infusion vs 26.6% after 1 year). Moreover the period of infliximab tolerance development corresponded to B1-cells SDH activity augmentation. Patients with sustained infliximab therapy efficacy had higher B2-cells SDH activity compared with patients with nonsustained effect (113.0 ± 3.2 c.u. vs 94.1 ± 2.7 c.u.).

Conclusions: Children with IBD were characterized with increase SDH activity of circulating B1-lymphocytes. Patients with nonsustained effect of infliximab therapy demonstrated gradually circulating B1-cells number increase along with B2-cells mitochondrial activity depression. The period of infliximab tolerance development corresponded to B1-cells SDH activity augmentation.

P187 MRI T2 relaxometry to image fibrosis in patients with Crohn’s disease
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Background: Non-invasive imaging tools that can assess connective tissue changes and can be applied repetitively, would be a major asset for the management of IBD, especially for the study of treatment efficacy and to predict treatment response. In vivo uMRI T2 relaxometry, a non-invasive imaging tool, allows to discriminate between acute and chronic phases of bowel wall inflammation and fibrosis in murine DSS colitis (Breynaert et al, Plos One 2013). We aimed at assessing the value of MRI T2 relaxometry in patients with Crohn’s disease (CD).

Methods: Imaging was performed on a 3 Tesla MR scanner. To determine the T2 a TSE sequence was used with 8 echoes between 15 and 225 ms at 15 ms intervals. To define the normal value of T2 intensity of the rectum, healthy volunteers had a pelvic MRI with acquisition of high resolution T2 weighted images and T2 relaxometry. CD patients in whom a pelvic MRI was indicated for assessment of CD activity were recruited after informed consent for an additional T2 relaxometry. On the T2 map of the pelvis, the rectum was identified on 3 cross-sections per patient and delineated. Within these regions of interest the distribution of the T2 times between 0 and 250 ms was determined using ImageJ. The study was approved by the Ethics Committee of the University Hospitals of Leuven (S53186 – Belgian number B3220111559). – Background: Few studies have so far focused on Magnetic Resonance Diffusion Weighted Imaging (MR-DWI) in Crohn’s disease (CD). The aim of our study was to compare the ADC value of the wall of affected bowel segments (ADCp) with the ADC value of the wall of normal appearing bowel loops (ADCna) in patients with endoscopically proven CD.

Methods: 60 consecutive patients with endoscopically proven CD submitted to MR-enterography at our Institution, where the standard imaging protocol includes free-breathing axial DWI with b = 800 s/mm².

Results: ADC of the wall of affected segments was significantly lower than ADC of the wall normal bowel loops (1.48 ± 0.058 mm²/s versus 3.525 ± 0.07 mm²/s; p < 0.05), independently by age or sex. Cut-off ADC value of 2.416 mm²/s showed 100% sensitivity and specificity for discriminating normal from affected bowel loops.

Conclusions: DWI is a very promising procedure in evaluating small bowel inflammation and may improve MR-enterography diagnostic performance in patients affected by CD.

P189 Lung-free lymphomatoid granulomatosis and Crohn’s disease: An unknown association
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Background: Lymphomatoid granulomatosis (LYG), is a rare condition. LYG is an Epstein-Barr virus (EBV)-related B-cell lymphoproliferative disorder characterized by a T-cell-rich
polymorphous angiocentric and angiodestructive infiltrate. LYG affects the lungs predominantly. The digestive tract is rarely involved. Patients with a primary or secondary immunodeficiency are at increased risk for LYG.

We report a case of LYG in a patient with Crohn’s disease (CD). This description also identifies an EBV-driven B-cell lymphoma in a patient following methotrexate (MTX) immunosuppression for inflammatory bowel disease (IBD). We have proceeded to an extensive review of the literature and to the best of our knowledge no other cases of Lung-free LYG have been described in patient CD.

Methods: 40 years old female. Diagnosed with Crohn disease when she was 20 years old, she was an estenotic colonic she needed right hemicolectomy and then she also needed transverse colectomy because of a new stenosis. Since then, she followed MTX treatment. She came for consult in July 2012 with malaise, weight loss, severe malnutrition, abdominal pain, inflammation in midline abdomen. A CT scan was performed: a subcutaneous collection was seen, and ileosigmoidy stenosis and bowel stenosis. Surgery was performed, ileosigmoid resection and protective ileostomy. There were no immediate complications after the procedure. She was admitted to the hospital again because of malaise, evening fever, pain in left hypochondrium, and dehydration. Pathology examination results were obtained, with the diagnosis of lymphomatoid granulomatosis.

The Hematology Department was consulted and Rituximab treatment was initiated (4 cycles). A new colon biopsy was obtained by colonoscopy and refractoriness was shown. Treatment with R-CHOPx6 was prescribed, obtaining parcial remission. Salvage therapy (R-ESHAPx2) was administrated, following autologous bone marrow transplantation.

Results: Management of the disease was extremely challenging because of the overlapping of symptoms between Crohn’s disease and Lymphomatoid Granulomatosis. Because it is a very rare condition, we needed to consult a renowned center in pathology. No lung affection has been shown during the development of the disease.

Conclusions: Immunosuppression produced by Crohn’s disease treatment creates risks that must be assumed by patients and doctors that treat them. Complex clinical characteristics and with no response to conventional treatments must make us think about associated entities. Biologic treatments and more specific drugs could reduce the incidence of these serious diseases.

P190

Low muscle mass in inflammatory bowel disease (IBD): common and predictive of functional sarcopenia and osteopenia

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Background: Body composition is poorly studied amongst adult patients with IBD. Lean mass (LM) deficits may not be detected with standard clinical assessment, yet may be associated with considerable morbidity; reduced muscle performance, quality of life, and bone health. We sought to assess the potential prevalence of low LM and examine for associated morbidity in an adult IBD population.

Methods: Data were prospectively gathered on consecutive, premenopausal, 20–50 year old outpatients with IBD. Whole body dual energy X-ray absorptiometry (DXA) (GE – Lunar Prodigy) and height and weight measures were used to calculate body mass index (BMI) (weight [kg]/height [m]²), appendicular skeletal muscle index (ASMI) (appendicular lean mass [kg]/height [m]²), and bone mineral density (BMD) (g/cm²). Baseline data included: grip strength (validated dynamometer), IBD disease characteristics and therapy, nutritional indices, physical activity, and health-related quality of life scores (HRQoL). Z scores were calculated from standard deviation (SD) values of established age-specific normative data for ASMI [1], grip strength [2] and BMD [3]. Low LM was defined as >1SD below mean for ASMI. Sarcopenia was defined as ASMI AND grip strength >1SD below mean. Standard definitions were used for osteopenia/orosis [3]. Univariate and multivariate logistic regression and t-test analyses were performed.

Results: 137 patients with IBD were enrolled; 76 (56%) male, 95 (69%) Crohn’s disease, median age 31 (mean 32.2), mean BMI of 26.2 (median 25.1), and 78 (57%) active disease. Overall, 29/137 (21.2%) patients had low LM, 19/76 (25%) males, 10/61 (16%) females. Amongst those with low LM, 17/29 (58.6%) also had reduced grip strength, meeting our definition of sarcopenia. Neither low LM nor sarcopenia were associated with a reduced HRQoL (p 0.94, p 0.82 respectively). 52/137 (38%) patients had osteopenia or osteoporosis. Multivariate analysis revealed that low LM and sarcopenia, but not BMI, predicted the combined endpoint of osteopenia/osteoporosis (OR 4.4, 95% CI 1.4–13.5, p < 0.01; OR 6.3, 95% CI 1.4–27, p < 0.02; OR 0.9, 95% CI 0.9–1.0, p 0.14; respectively) (Table 1).

Table 1. Clinical predictors of osteopenia or osteoporosis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Univariate analysis</th>
<th>Multivariate analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosis: ulcerative colitis vs Crohn’s disease</td>
<td>0.64 ± 0.1, 0.26</td>
<td>0.5 ± 0.1, 0.16</td>
</tr>
<tr>
<td>Disease duration b</td>
<td>1.01, 0.1, 0.1, 0.010</td>
<td>1.10, 0.1, 0.1, 0.001</td>
</tr>
<tr>
<td>Steroids (&gt;12 months, &lt;12 months)</td>
<td>2.03 ± 0.01, 0.030</td>
<td>1.77 ± 0.2, 0.027</td>
</tr>
<tr>
<td>Fecal calprotectin (&gt;100 vs &gt;100 g/kg)</td>
<td>0.53 ± 0.2, 0.044</td>
<td>0.23 ± 0.0, 0.010</td>
</tr>
<tr>
<td>Serum 25-Vitamin D level (&gt;60 vs &gt;60 nmol/L)</td>
<td>1.03 ± 0.01, 0.044</td>
<td>0.23 ± 0.0, 0.010</td>
</tr>
<tr>
<td>Physical activity c</td>
<td>0.63 ± 0.1, 0.21</td>
<td>0.5 ± 0.1, 0.21</td>
</tr>
<tr>
<td>Alcohol intake d</td>
<td>1.0 ± 0.0, 1.00</td>
<td>1.0 ± 0.0, 1.00</td>
</tr>
<tr>
<td>Smoking (current/ex-smoker vs never)</td>
<td>1.0 ± 0.08, 0.58</td>
<td>1.22 ± 0.0, 0.58</td>
</tr>
<tr>
<td>Body mass index b</td>
<td>0.96 ± 0.01, 0.14</td>
<td>0.96 ± 0.01, 0.14</td>
</tr>
<tr>
<td>Low ASMI</td>
<td>0.46 ± 0.1, 0.030</td>
<td>0.83 ± 0.1, 0.030</td>
</tr>
<tr>
<td>Sarcopenia e</td>
<td>2.29 ± 0.1, 0.010</td>
<td>1.4 ± 0.1, 0.020</td>
</tr>
</tbody>
</table>

* p < 0.05 statistically significant.

a Continued endpoint: World Health Organization definition: osteopenia I.25 standard deviations (SD), osteoporosis >2SD below mean for young adults (T-score).

b Continuous variable.

c International Physical Activity Questionnaire: low vs normal/high.

d Alcohol intake ≥20 g/day.

e Sarcopenia: defined as >1SD below age-matched mean for Appendicular Skeletal Muscle Index (ASMI) and grip strength.

Conclusions: Despite normal BMI, low LM is common in patients with IBD, affecting 25% of males. Low LM is commonly associated with reduced muscle performance constituting functional sarcopenia. Recognition of low LM is important in patients with IBD given its value in predicting bone health issues, which may be otherwise unsuspected and are not predicted by BMI.

Reference(s)

