PWE-121

RATIO OF VISCERAL FAT TO SUBCUTANEOUS FAT AREA IS A PREDICTIVE BIOMARKER FOR COMPLICATED CROHN'S DISEASE

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Introduction Fat wrapping and mesenteric hypertrophy are considered hallmarks of Crohn's disease (CD). Mesenteric adipose tissue in patients with CD has been shown to release higher levels of adiponectin, which could result in upregulated

production of TNF-α and increased risk of developing more aggressive disease. We aimed to study if a higher visceral to abdominal fat ratio was associated with more aggressive subtypes (fistulating or stricturing) of CD.

Methods We identified patients with a confirmed diagnosis of CD and selected patients who had had CT scans of their abdomen. Subcutaneous and visceral fat areas were measured in one cross-sectional scan taken at the level of the umbilicus. The mesenteric fat index (MFI) defined as a ratio of visceral to subcutaneous fat area. The MFI was compared between patients with complicated Crohn's (strictures and fistulas) and inflammatory Crohn's (non-stricturing and non-penetrating).

Results CT scans from 50 patients with CD were evaluated. The mean age of the patients with complications (n=29) was 37.7±14.9 years and in patients with no complications (n=21) was 30.1±18.3 years. The MFI was significantly higher (p=0.001) in patients with complicated disease (0.67±0.29) than in those with uncomplicated disease (0.23±0.10) and was the only variable that remained significantly different on multivariate analysis. The area under the receiver operating curve for the MFI was 0.95 (95%CI 0.89 to 1.0) and an MFI of 0.29 was 93% sensitive and 81% specific in detecting patients with complicated CD.

Conclusion Higher MFI is indicative of more aggressive fistulating and stricturing subtypes of CD. Further work is needed to address whether this is a primary or secondary phenomenon.

Competing interests None.

Keywords computed tomography, Crohn's disease, mesenteric fat.