

# IgG4 related mesenteric fibrosis in small bowel neuroendocrine neoplasms

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## INTRODUCTION

Mesenteric fibrosis in patients with small bowel neuroendocrine neoplasm (SB-NEN) might eventually lead to ischemia or bowel obstruction.

## AIM

To investigate the relationship between IgG4 expression, the extent of mesenteric fibrosis and other clinicopathological features.

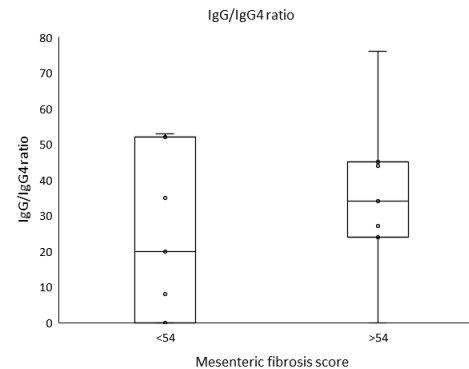
## METHODS

- This retrospective study included patients who underwent resection of a SB-NEN.
- Imaging data from preoperative scans were used to quantify the extent mesenteric fibrosis, taking into account the size of the mesenteric mass and number and thickness of fibrotic strands. This resulted in the “mesenteric fibrosis score”.
- FFPE tissue of the corresponding patients were stained for IgG4/IgG expression.

## RESULTS

- 14 patients with a mean age of 64 years were included.
- The median (IQR) mesenteric fibrosis score was 54 (39-62), based on this the cohort was split in patients with a score of <54 and >54.
- 10/14 samples had IgG4 positive plasma cells surrounding the NET tumour cells.
- The mean IgG4/IgG ratio was lower in the group with mesenteric fibrosis score <54 (24%) compared to the ≥54 group (36%).
- Tumours were grade 2 in 60% of patients with IgG4/IgG ratios over 40%, and in 22% with IgG4/IgG ratios less than 40%.
- Higher mean IgG4/IgG ratios were seen in stage IV vs. stage III patients (34 vs. 21%) and in symptomatic vs. asymptomatic patients (32 vs. 21%).

More information is available on the website of the International Study Group for Small bowel neuroendocrine neoplasms Surgery



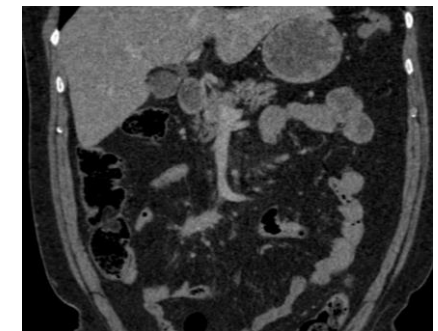
Boxplot of mesenteric fibrosis score (MF) and IgG4/IgG ratio.



IgG4 staining of a 70-year old male with a grade 2 SB-NEN. IgG4 positive cells: 57, IgG4/IgG ratio: 76%

## CONCLUSION

- There is a trend towards a higher IgG4/IgG ratio in patients with more extensive mesenteric fibrosis, higher grade tumours, higher stage and symptomatic disease.
- We hypothesize that a subset of patients with mesenteric fibrosis can be treated with glucocorticoids or rituximab, similar to IgG4 related disease. The goal of such a therapy would be more effective symptom control and slowing down growth of mesenteric fibrosis, with the ultimate goal of preserving quality of life of patients, and make surgical resection possible.



CT-scan of patient with a mesenteric mass