PTU-034 **IDENTIFICATION OF MUCOSAL-ASSOCIATED INVARIANT T CELLS IN PANCREATIC TISSUE AND BLOOD OF PATIENTS WITH CHRONIC PANCREATITIS**

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Introduction Mucosal-Associated Invariant T cells (MAIT) are recently described human T lymphocytes with possible functions in mucosal antibacterial host defence.[1] MAIT express a highly conserved T cell receptor (TCR) alpha chain consisting of an invariant Vα7.2-Jα33 rearrangement.[2] Recent evidence suggests a role for T lymphocytes in the pathogenesis of chronic pancreatitis (CP), but little is known about the composition of T cell subsets in this disease.[3 4] Intestinal bacterial overgrowth is common in chronic pancreatitis patients.[5] We hypothesised that this antigenic load may promote MAIT infiltration of the pancreas and used flow cytometry to study T lymphocytes in resected pancreatic tissue and blood of patients with chronic pancreatitis.

Methods Fresh resected pancreatic tissue from five patients with CP (5 males, aged 35–62, median age 43) was diced finely, enzymatically digested and passed through a nylon mesh. Lymphocytes were then isolated using density gradient centrifugation. Peripheral blood mononuclear cells (PBMCs) were isolated from the blood of the CP patients and four control patients (2 male, 2 female, aged 31–75, median age 41) using widely established techniques. Isolated tissue lymphocytes and PBMCs were analysed with fluorochrome conjugated antibodies (anti- CD3; CD4; CD8; CD161; TCR Vα7.2[2] and a live/dead stain) according to standard techniques using a FACSAria.

Results The ratio of CD4:CD8 T cells found in pancreatic tissue compared to blood in patients with CP trended towards a higher ratio in blood, however the trend was not statistically significant. Double negative (DN) and CD8 MAIT cells (TCR Vα7.2+ CD161) were identified in pancreatic tissue and blood in all patients. The proportion of DN MAIT cells was significantly higher in pancreatic tissue compared to blood in patients with CP: 19.4% (5.7–39.6%) versus 5.2% (1.9–11.1%); $p<0.05$. The proportion and ratio of CD4 and CD8 T cells was similar in peripheral blood of patients with CP compared to controls.

Conclusion These preliminary data show that while the distribution of CD4 and CD8 lymphocytes in CP tissue and blood is similar, DN MAIT cells are over-represented in tissue. This suggests a specific role for DN MAIT cells in local immune responses in CP. Further analysis using a larger patient cohort and functional studies to assess the possible role of these cells in the regulation of pancreatic inflammation are required.

Competing interests None.

Keywords Chronic Pancreatitis, Immunology, Mucosal-Associated Invariant T Cells.

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