

P054 An Immunohistochemical Study of Insulinitis in Early Onset Type 1 Diabetes

A. Willcox*, **S. Richardson***, **A. J. Bone†**, **A. K. Foulis‡**
and N. G. Morgan*

**Peninsula Medical School, Plymouth, UK; †University of Brighton, Brighton, UK; ‡Royal Infirmary, Glasgow, UK*

The aim was to study the immune cell infiltrate in islets (insulinitis) in fixed, paraffin embedded, pancreases recovered *post-mortem* from recent onset type1 diabetic patients. 26 cases were stained for insulin, glucagon and a range of specific immune cell markers, including CD4+, CD8+ (T-cells) CD20+ (B-cells) and CD68+ (macrophages). 2642 islets were present and 200 of the 609 insulin-containing islets had insulinitis (defined as >5 immune cells per islet section) compared with 116 of 2033 insulin-deficient islets. Individual immune cells were counted in 245 islets. CD8+ T cells were the most abundant population in both insulin-containing and insulin-deficient inflamed islets whereas CD4+ T cells were the least abundant cell type at all stages. CD20+ and CD68+ cells were each recruited to islets in early insulinitis (insulin-containing islets with copious insulin) but declined later. These data provide the first detailed analysis of the progression of insulinitis in human T1D.