**P009** Molecular Abnormalities In Paediatric Barrett’s Oesophagus: Can We Test For Potential of Neoplastic Progression?

**Edna L. Maltby¹, Michael Dyson¹, Mark Wheeler¹, Michael Thomson² and Marta C Cohen³**

¹ Cytogenetics ² Paediatric Gastroenterology ³ Histopathology

Sheffield Children’s NHS Foundation Trust, Western Bank, Sheffield S10 2TH

The aim of our study was to investigate whether genetic biomarkers of potential disease progression are the same in the rare situation of paediatric Barrett’s oesophagus as described for the adult state.

We performed Fluorescence In Situ Hybridisation (FISH) on sections taken from 48 paraffin embedded sequential biopsies of 10 cases of BO. The four probe sets probes were specific for HER2 at 17q12/17 centromere/4 centromere; p16 at 9p21/9 centromere; TP53 at 17p13/17 centromere/6 centromere and CCND1 at 11q13/11 centromere. The probe sets were validated on 10 cases of adult Barrett’s adenocarcinoma.

Out of the 10 cases, six cases were informative in at least one biopsy. Two had borderline amplification of HER2 detected in one biopsy each and four separate cases showed p16 deletion in one biopsy of each.

The genetic markers informative in 60% of our cases were also identified in adult patients with Barrett’s adenocarcinoma. The importance of this study is that even at the paediatric level, Barrett’s oesophagus can show genetic changes associated with neoplastic progression.