**Title: Molecular subtypes of Gastric Cancer and clinico-pathological implication.**

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Abstract

Classification systems for gastric cancer (GC) were based on **c**omprehensive molecular analysis of that provided insights into developing personalised therapy.Aim of the study was to establish a less cumbersome and clinically relevant assay for different histological tumor types describing associated clinico-pathological parameters in 100 hundred GCs. The cases were assessed for mismatch repair protein deficiency (MMRd), P53 aberrancy and E-cadherin aberrancy by immunohistochemistry (IHC). Her2/neu amplification by IHC and fluorescence *in-situ* hybridisation. Fifty-seven cases were of Laurén intestinal subtype and 43 cases had diffuse morphology. Age range is 25-90yrs (Mean - 53.3yrs), male female ratio is 3.3:1. Diffuse GC is more common in younger female patients (*P* - 0.041). Eight cases showed MMRd, are of intestinal subtype and more commonly seen in Gastric cancer with lymphoid stroma. MMRd is associated with older age, distal location and better outcome and survival (*P* 0.042). P53 aberrancy is identified in 51% of cases. MMRd and P53 showed inverse relation. P53 positive gastric cancer show a higher pT and lymph node involvement (*P-* 0.028). Her2*neu* overexpression is identified in 15% of the cases of GC. All Her2 positive cases were of intestinal morphology which also include 2 cases of cribriform carcinoma and 1 hepatoid adenocarcinoma. Thirty cases were microsatellite stable, P53 and E-cadherin wild type. We have demonstrated that GC can be classified into clinically relevant subgroups by using a convenient screening tool.