Introduction: Gastric cancer is the 3rd cause of cancer related deaths worldwide. In Egypt, it is 12th in position regarding incidence and cancer-related deaths. About 65% of patients present with locally advanced or metastatic disease with 5-year survival rates of 30% and 5% respectively. Several prognostic factors had been identified for gastric cancer including stage, location, pathological subtype, peritoneal deposits, and HER2-neu over-expression. In this retrospective analysis, we are aiming at identifying the clinicopathological, epidemiological and treatment outcome for patients with advanced gastric cancer.

Methods: We analyzed the medical records of advanced gastric cancer patients treated at Ain-Shams university hospital from the period of January 2011 till December 2014. Eighty-one patients were included with thirty-eight paraffin blocks were available for retrospective analysis of HER2-neu status.

Results: Median age at presentation was 52 (range 25–81). Fifty-five percent were male (45 patients) and 57% were smokers. Most common primary site was antrum (33.5%). 58% of patients presented with good performance status (ECOG ≤ 2). The main presenting symptoms were vomiting followed by epigastric pain. Diffuse pattern according to Lauren’s classification was predominant (66.7%). High grade (GIII) tumor represented 61%. Liver was the most common site of metastasis followed by peritoneum, lung, bone and adnexa; 31%, 24%, 15%, and 10% respectively. HER2-neu was positive in 4 out of 38 specimens (10.5%) using immunohistochemistry (IHC); score +3, 33 specimens were negative (score 0 or +1) and one specimen was +2 who was confirmed negative by SISH. Median OS was 7 months (confidence interval 95%, SE 0.725, 5.579–8.421) with significantly better survival for young patient (<45years), non-smokers, intestinal type carcinoma, patients with metachronous metastasis (more than 6 months DFS) with p value 0.003, 0.0001, 0.03, 0.039 respectively. Sixty-one patients received 1st line chemotherapy. DCF (Docitaxel–cislatin–5FU), 5FU/LCV and ECX (Epirubicin–Cisplatin–Capecitabine) were the most commonly used protocols with objective response rate (ORR) of 44%. There was no statistical significant difference between the 3 protocols in terms of ORR, PFS or OS. Thirty-four patients received 2nd line chemotherapy; mostly Docitaxel-based or Irinotecan-based. The two protocols were similar in terms of ORR, PFS and OS with ORR of 34%. Patients who received ≥2 lines of chemotherapy had significantly better survival than one line or no treatment (12, 7 and 6 months respectively; p value 0.002). HER2-neu positivity had negative impact on survival with median OS of 6 and 10 months for positive and negative patients respectively (p 0.014). In a multi-variant analysis, there was no statistically significant difference between different clinicopathological or epidemiological factors and HER2-neu status.

Conclusion: Advanced gastric cancer is potentially incurable disease. Several prognostic factors may predict better outcome; including age, smoking history, pathological type and HER2-neu status. As long as the general condition permits, sequential multiple lines of treatment should be offered for the patients to improve survival.