Introduction: Laparoscopic gastric resection has increased popularity in western countries as a potentially curative treatment of gastric cancer. The short-term outcomes and technical feasibility are well proved, whereas long-term outcomes and oncological safety are still uncertain.

Methods: We performed a comparative analysis based in a prospective database with gastric cancer cases submitted to curative intent surgery, between January 2010 and December 2014, in an Upper GI Surgery Unit. For this analysis, cases of non-resectional surgery were excluded.

Results: The 207 cases included in this study were divided in two groups [Laparoscopic (LG) 63 (including 5 conversions) vs Open (OG) gastrectomy 144 cases], that were comparable in demographics (age, gender, comorbidities, ASA score, BMI) and clinico-pathological profile (tumor location and histologic type, staging pTNM and neoadjuvant therapy). In OG group were performed more total gastrectomies (49.3% vs 25.4%; p = 0.002), while LG allow a better lymphadenectomy (D2 in 39.7% vs 16%; p = 0.002), but was associated to a longer operative time (252.3 ± 45.2 vs 207.2 ± 55.9 minutes, p < 0.001). LG was associated with less post-operative morbidity (12.7 vs 24.3%, p = 0.058), mortality (1.6 vs 6.3%, p = 0.289) and re-intervention rate (OR 0.129; CI95% 0.017-0.995; p = 0.049). In OG there was a significant (p = 0.033) need for transfusions (OR 3.127; CI95% 1.125-8.691), while in LG group there were more long-term complications (OR 3.345; CI95% 1.11-10.087; p = 0.034). There weren’t significant differences between both groups in LOS, readmission rate nor Clavien classification. Related to oncological outcomes, there weren’t significant differences between groups in lymph nodes (LN) retrieved (28.1 ± 11.2 vs 28.4 ± 14.4 LN), R0 resection rate (93.7 vs 92.4%), surgical margins (proximal 5.4 ± 3.1 vs 5.3 ± 3.3 cm; distal 4.6 ± 2.8 vs 4.3 ± 3.3 cm) nor recurrence rate (25.4 vs 22.9%). Median follow-up was 29 (0-72) months. LG was associated with significant (Log rank, p = 0.01) better overall survival (1-year 89 vs 78%, 2-year 78 vs 64%, 3-year 73 vs 54%), but there weren’t significant differences (Breslow, p = 0.093) in disease-free survival (1-year 87 vs 69%, 2-year 72 vs 63%, 3-year 67 vs 59%).

Conclusion: The results of this study provide further evidence for the feasibility and oncological safety of LG, being associated with reduced morbidity and an impact in overall survival.